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**A LONGITUDINAL MIXED-METHOD
INVESTIGATION OF SEXUAL
DEVELOPMENT AMONGST A
SCHOOL-AGED SAMPLE OF
ADOLESCENTS IN IBADAN, OYO
STATE, NIGERIA.**

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ABOLARIN**

PhD

2019

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ADOLESCENTS IN IBADAN, OYO
STATE, NIGERIA.**

VICTORIA ANUOLUWAPO ABOLARIN

A thesis submitted in partial fulfilment
of the requirements of the University of
Northumbria at Newcastle for the degree of
Doctor of Philosophy

Research undertaken in the
Faculty of Health and Life Sciences

April 2019.

ABSTRACT.

Background: Around 1.2 billion people, or 1 in 6 of the world's population, are adolescents aged 10 to 19. Evidence has shown that in most countries of the world children are attaining puberty and biological maturity at an earlier age. This trend may perhaps be due to improved nutrition though other factors may also be at play. In every population, adolescents are amongst the most sexually active of groups and may become involved in regular unhealthy and risky sexual practices that further threaten future reproductive health. STIs (including HIV) and unintended pregnancy among adolescents remain both a risk and public health burden, in spite of long-term efforts at prevention.

Aim: This study aims to critically investigate the understanding and experience of sexual development of a school-aged sample of adolescents in Ibadan, Oyo State, Nigeria by means of a longitudinal mixed-methods approach.

Methods: An adapted version of the WHO 'Asking young people about sexual and reproductive behaviours' survey was administered at baseline and 6 months (n=121). Hierarchical Cluster Analysis of baseline results was used in order to determine a sampling matrix for the qualitative phase of this study. The emergent clusters differed on the basis of whether participants were home or peer oriented in their outlook. Semi-structured interviews (n=10) were undertaken with a mixture of peer-oriented and home-oriented young people.

Result/findings: Statistically significant differences were determined between baseline and 6 months in terms of whether members of the sample had '*ever had a boy/girlfriend*' ($\chi^2 = 20.407$, $P \leq 0.000$), '*ever had sex before*' ($\chi^2 = 5.493$, $P \leq 0.019$), as well as changes in attitudinal orientations towards sex before marriage ($U = 2268.00$, $P \leq 0.017$). Thematic analysis of qualitative data revealed a complex interplay of factors mediating adolescent sexual choices including informational, family, peer, cultural and social structural factors.

Conclusion: This study provides some evidence in support of the role of social structures in determining adolescent sexual choices: adolescent development is a reality, but not one that can be understood solely in terms of agency or culture. It can, therefore, be argued that society and government have a role to play in supporting young people in

making responsible sexual choices. Improving adolescent sexual and reproductive health remains a public health priority both locally, nationally and internationally.

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LIST OF ABBREVIATIONS.

SRB: Sexual Risky Behaviour.

SRH: Sexual and Reproductive Health.

ASRB: Adolescent Sexual Risky Behaviour

ASRH: Adolescent Sexual and Reproductive Health

WHO: World Health Organisation.

STIs: Sexually Transmitted Infection

HIV: Human Immunodeficiency Virus

CSE: Comprehensive Sexuality Education

FLHE: Family Life and HIV Education

AIDS: Acquired Immunodeficiency Syndrome

VVF: Vesico-Vaginal Fistula

SES: Socioeconomic status

TV: Television

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Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the School Research Ethics Committee.

I declare that the word count for this Thesis is 85000.

Name: Victoria Anuoluwapo Abolarin

Signature:

Date:

Word count: 85000

CHAPTER ONE

INTRODUCTION

1.1 CHAPTER OVERVIEW.

This chapter provides an introduction to the topic area, by providing the rationale of the study. Also, this chapter defines the term ‘adolescence’, states the unintended consequences of adolescent sexual experimentation, highlighting the public health implications. This chapter concludes with the aims and objectives of this research.

1.2. INTRODUCTION- The Purpose of this study.

Evidence has shown that in most countries of the world children are attaining puberty and maturity at an earlier age than decades ago; this may perhaps be due to improved nutrition though other factors may also be at play (Kirby, 2011). For instance, girls today on average, experience their first menstrual period (menarche) earlier than their mothers did while the boys experience the inception of sperm development earlier than their fathers (Kirby, 2011). In most developed countries, young people start to have sex at about the same age (Conklin, 2012); this may be due to societal norms or less parental influence or control. More so, in some developed countries, societal norms regarding experimentation of sex before marriage have become less strict as more young people engage in sex before marriage. Some are having several partners before marriage, coupled with less access to effective modern methods of contraception, most especially in the developing nations (Kirby, 2011; Oluwatoyin and Modupe, 2014). As a result of this, young women, particularly adolescents are at higher risk of having an unintended premarital pregnancy, while both young women and men are at higher risk of contracting STIs, including HIV. Adolescents are also confronted with sexual violence; a renowned rising predicament and a foremost sexual and reproductive health issue. Likewise, adolescents are confronted and have to deal with sexual abuse and sexual coercion in their everyday lives (Folayan et al., 2015). No doubt the outcome of these Sexual Risky Behaviours (SRB) has considerable negative impacts on the health and developmental outcomes on the lives of the young people involved. Their families and communities, in terms of societal costs exacerbate the global public health burden which could be prevented (Kirby, 2011, Oluwatoyin and Modupe, 2014).

Adolescents are the future of any nation, therefore, promoting and improving sexual and reproductive health during adolescence (as well as taking proper steps to protect young people from health risks) is vital for the prevention of health problems in adulthood and for a country’s future economic health and growth (WHO, 2016c). Neglecting the reproductive and sexual health of this age group will have tangible national impacts,

potentially for decades (Adogu et al., 2014). Thus, investing in adolescent health, not only makes difference at an individual level but also provides a healthy labour force thus ensuring a more positive economic future. Hence, sexual health promotion amongst this group constitutes a public health priority locally, nationally and internationally. However, in order to ensure maximum effectiveness, sexual health interventions in adolescence need to be tailored to different sub-sections of the adolescent population. In order to achieve this aim, it is essential to explore and take full account of demographic and attitudinal factors influencing sexual development in the Nigerian context. Therefore, this study wishes to explore how might demographic and attitudinal factors influencing adolescent sexual development in the Nigerian context be best employed in order to tailor specific public health interventions in adolescent sexual development?

Several studies conducted in Africa, including Nigeria have established increasing rates of premarital sex and decline in the age of sexual debut among adolescents which is against existing cultural values (Okonofua, 2000; Okpani and Okpani, 2000; Sunmola et al., 2002; Oladokun et al., 2007; Bello, et al., 2008; Adeomi et al., 2014). Also, in Nigeria, research conducted from numerous parts of the country have reported a high level of sexual activity among unmarried adolescents of both sexes with increasingly declining age of the sexual debut, risky sexual practices, as well as unprotected sexual intercourse with multiple partners (Monisola, and Oludare, 2009; Aji, et al, 2013). In sub-Saharan Africa, the prevalence of sexual violence ranges between, 15% to 40% (Fatusi and Blum, 2009). In Nigeria, studies reveal rates of sexual coercion and sexual abuse among adolescents occurring between 11 to 55% (Adejuwon et al., 2006; Adejuwon et al., 2001). This corroborates Ahonsi's (2013) work which indicated that adolescents in Nigeria have a high burden of sexual and reproductive health problems. It is apparent that female adolescents face the burden of negative consequences of risky sexual behaviors much more than males. Some of the brunts they bear, include being placed in academic and educational deficit, compromised life chances, maternal health risk, as well as social stigma and poverty (Mercy and Agokei 2014).

In Nigeria, in spite of the legal age of marriage being 18years, (although, this is not fully recognized and implemented in all the 36 states in Nigeria) still, a large number of adolescents are sexually active (Folayan et al., 2015). For instance, evidence shows that an increased number of adolescents initiate sex early with the median age of sexual debut being about 15years, meaning that some adolescents engage in sexual activities

earlier than 15 years (Cortez et al., 2015). In the same vein, Folayan et al., (2015) mentioned that early sex initiation raises the likelihood of multiple sex partnering. Evidence from the National Population Commission Nigeria reveals that adolescents between the ages of 15 to 19 years engage in high sexual risk behaviour such as unprotected sex during transactional sex (paid for sex). For instance, 61.9% of sexually active girls and 53.9% of sexually active boys have engaged in unprotected sexual intercourse with a partner who was either not their spouse nor a cohabiting partner in the last 12 months of the survey (National Population Commission (NPC) [Nigeria] and ICF International. 2014). Reasons may be attributed to increased rates of poverty, adoption of Western norms of sexual autonomy, gradual wearing away of traditional norms and values, lack or limited parental control, mass media influence, urbanization and tourism (Bello et al., 2008; Oladokun et al., 2007). Unfortunately, there is no national statistical information provided for adolescents, under 15 years regarding sexual risky behaviour in Nigeria. However, in an effort to address Adolescent Sexual Risk-taking Behaviour (ASRB) the Nigeria Federal Ministry of Health developed Adolescent Sexual and Reproductive Health (ASRH) policies to address ASRB which are *National Reproductive Health Policy and Strategy, (2001)*, and *National Policy on Health and Development of Adolescents and Young People in Nigeria (2007)* (Cortez et al., 2015). Unfortunately, these government policies and strategies have not been successfully carried out in all parts of the country. The rate of risky adolescents' sexual experimentation is on the increase (Sedgh et al., 2009). The severe consequences allied with adolescent sexual activity indicate a need to understand the various perceptions of risky sexual experimentation that exist among adolescents and also demands the exploration for a positive way forward; hence the objectives of this study.

A variety of 'snapshot' research studies have been carried out on this topic using either qualitative or quantitative methods. However, to the best of the researcher's knowledge following an extensive literature review, no previous study has investigated this area using a longitudinal mixed-method approach. The advantages of this approach is in tracking individuals over a period of time and observing changes in sexual attitudes and practices, and be able to model a combination of factors related to patterns of sexual maturation. Longitudinal studies aid to understanding and can evaluate change over time in characteristics or diseases in the population under study (Guralnik and Kritchevsky, 2010). The resulting knowledge may allow for the planning of effective and appropriate interventions, where necessary. This study has the potential to fill in

gaps, update research and add to the existing body of knowledge on adolescent sexual behaviour, which may serve as a key element to accomplishing the United Nation Sustainable Development Goal SDG 3, Good health and wellbeing (which includes, Child Health, Maternal Health and HIV/AIDS, and other diseases) (United Nation (UN), 2016). Addressing young people's sexual and reproductive health needs and challenges by any government is a means to achieving the SDG 3 (Adogu et al., 2014). These will subsequently have a positive impact both on the economy of the nations and generations of young people, their families and communities (Adogu et al., 2014).

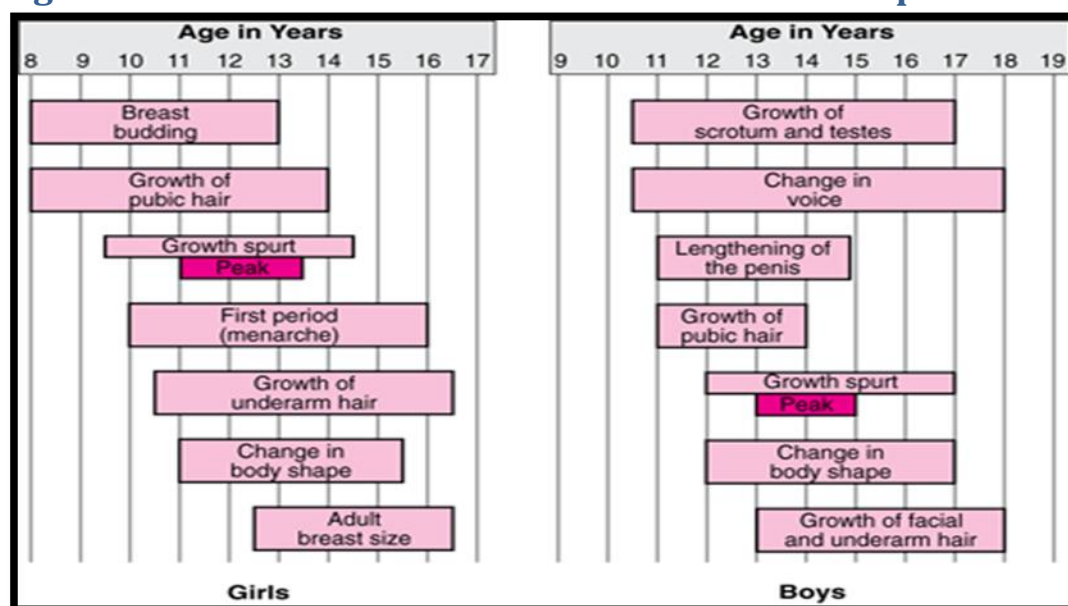
1.3. DEFINING ADOLESCENCE.

The word “adolescence” originates from the Latin word “adolescere” meaning “to grow up” (Kar, Choudhury, & Singh, 2015). It is a concept foremost made current in the early 20th century by an American educational psychologist G. Stanley Hall to describe the emotional problems young people may be confronted with, in handling the transition to adulthood, the separation from their immediate families and the start of an autonomous life (Curtis, 2015). Therefore, adolescence can be said to be a state of psychological and sociological development. Furthermore, the World Health Organization (WHO) defined adolescence as the period in human growth and development that occurs after childhood and before adulthood, usually characterized as the second phase of life between the ages of 10 to 19 years (WHO, 2016a; WHO, 2016b). However, defining the characteristics and timing of adolescence may vary across history, cultures and socioeconomic situations; yet, the biological elements of this period are somewhat universal (WHO 2016a).

Adolescence can be further divided into three stages: the early or pre-pubertal (10–13 years), middle or pubertal (14–16 years), and late (17–19 years) adolescence (Okonofua, 2014; Kar, Choudhury and Singh, 2015). The period of adolescence is categorized by significant physical, physiological, psychological, cognitive and social transitions (Okonofua, 2014; Oluwatoyin and Modupe, 2014). Associated with these transitions is the key matter of sexual development, which is shaped by many factors; however, sexual development is a normal and seemingly essential part of adolescence because it involves not only the physical changes but also the development of one's individuality, perspective, attitudes, expression of intimacy and the defining experience within sexual and romantic framework (Ugoji, 2013). Adolescent sexual development begins during

puberty while biological maturity is generally attained during late adolescence (Okonofua, 2014). Although, the age of inception and rate of biological milestones in sexual development are subject to individual variation, they are also influenced by factors such as gender, heredity, environments, nutrition, ethnicity and status of health (Okonofua, 2014), (See figure 1.1).

Figure 1.1: Milestones in Adolescent's Sexual Development.



Source: Adapted from (Doyle, 2016).

Although adolescence is viewed as a period of tremendous growth and potential, it can also be time of significant risk-taking during which social frameworks exert powerful influences (Oluwatoyin and Modupe, 2014; WHO, 2016a; WHO, 2016b). The health risks that do surface are largely related to behavioural choices that adolescents make or the choice is made for them in the process of creating a sense of identity and autonomy (Gwede et al., 2001; WHO, 2016c). However, the significance of adolescent health goes beyond immediate mortality and morbidity, as many potential risk factors for future adult disease starts or are formed during the second decade of life (WHO, 2015). This corroborates with the reports of WHO that about 70% of premature deaths occurring amongst adults are mostly due to behaviours that started during adolescence. Of concern, is the age of sexual debut which is generally low. There is dearth of knowledge on sexuality among young people, particularly in developing countries (Dehne & Riedner, 2005). Adolescents in their early adolescence face a great challenge; various significant biological and psychological changes happen during this period, of which

most adolescents are not adequately prepared to handle, which puts them under stress frequently (Okonofua, 2014). For instance, the start of menstruation in girls, change in voice (puberphonia) among boys, the development of secondary sexual characteristics, and psychological changes are usually expressed as challenges among adolescents (Kar, Choudhury and Singh, 2015). Adolescents are not a homogenous group, that is, their needs differ greatly, for instance, by age, gender, region, socioeconomic condition and cultural context. Their sexual and reproductive health needs also differ significantly across diverse groups, cultures and religion (Aji, et al, 2013). During, adolescence, there are six key developmental tasks to achieve while growing up; these include physical and sexual maturation; independence; conceptual identity; functionality identity, cognitive development, sexual self-perception (Action Health Incorporated, 1991). Conklin (2012) highlighted that adolescent sexual development is significant for the course of identity formation and the formulation of relationships, such as the romantic and social relationships among peers. However, in addressing these normal developmental responsibilities, the transition to adulthood for most young Nigerians is complicated by the country's (relatively changeable) economic, political and cultural circumstances. Adolescents are faced with unstable cultural values caused by urbanization, economic globalization and a media-saturated environment.

One of the major developmental challenges individuals face during the adolescent years is centred on sexual maturity (Raffaelli and Crockett, 2003). According to WHO- (2015b) sexuality is a fundamental aspect of being human all through life; it includes sex, gender individuality and responsibility, sexual orientation, eroticism, pleasure, intimacy and reproduction. It is expressed and articulated in thoughts, fantasies, wishes, beliefs, attitudes, values, behaviours, practices, roles and relationships. Also, sexuality is influenced by the interface of biological, psychological, social, economic, political, cultural, legal, historical, religious and spiritual factors (WHO, 2015b). Olugbenga-Bello et al., (2009) stated that adolescents are usually known to be an adventurous group. They seek to experiment whether whatever they read, see or hear is true or false, practicable or not, which often leads to risky sexual experimentation. Some of them engage in practices such as unsafe sexual activities (Action Health Incorporated, 1991).

The desire for sex and an intimate relationship are prevailing driving forces for most young people, who are in most cases under pressure to engage in sexual relationships prematurely (Raffaelli and Crockett, 2003). Even though sexual exploration is a normal

feature and a naturally healthy part of adolescence (Schantz, 2012), unprotected sex, especially with multiple partners, increases the risk of Sexually Transmitted Infections (STIs) and unintended pregnancy (Kalmuss et al., 2003; Raffaelli and Crockett, 2003). Notably, there is a great disparity in the way adolescents handle these possible risks; some refrain from sex totally, some have sexual intercourse with one partner while some have sexual intercourse with different numbers of sexual partners along with contraception (specifically condom use) frequently (Kalmuss et al., 2003).

Risky sexual experimentation can be defined in several ways. However, the most usual way is to define this according to actions; that is, sexual activities (such as unprotected sexual intercourse, multiple sexual partners, forced or coerced sexual intercourse, money or reward for sexual intercourse [transactional sex], trans-generational sex) that increases the chances of adverse sexual and reproductive health risks or diseases such as Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS). Unplanned pregnancies, unsafe abortion as well as complications such as Vesico-Vaginal Fistula (VVF) during childbirth due to under-developed bodies are potential outcomes. Other consequences of risky behaviour may include suicide, premature death from accidents, negative effects of alcoholism, drug use, violence (Gwede et al., 2001; Oluwatoyin and Modupe, 2014).

1.4. UNINTENDED CONSEQUENCES OF ADOLESCENT SEXUAL EXPERIMENTATION: PUBLIC HEALTH IMPLICATIONS.

Despite the fact that a large number of adolescents are sexually active, for many in Nigeria, the topic of sexuality may not be openly acknowledged or discussed. This is because open discussion about sex is suppressed in most cultural and religious settings. Furthermore, sexual education that may potentially help in reducing vulnerability is often (actively) not welcomed (Odutolu, et al., 2006; Imaledo, et al., 2012). The situation is further exacerbated by many Nigerian parents and adults who believe that sexuality education will only hasten the exposure of adolescents to actual sexual activity (Odutolu, et al., 2006). The traditional mechanisms for managing and monitoring adolescents' sexuality, particularly early marriage, and values of abstinence before marriage, are gradually fading away (Action Health Incorporated, 1991). Consequently, the Nigerian Association for the Promotion of Adolescent Health and Development, (NAPAHD) in hospital-based research, revealed that 80% of patients with abortion complications reported in hospitals are adolescents (Inyang and Inyang, 2013). Despite

the growing evidence-base of factors influencing the sexual health education of adolescents, at present, there is a little awareness regarding the factors that influence choice of sexual practices and sexual behaviours amongst adolescents in Nigeria (Folayan et al., 2016). Furthermore, there are also inadequate national-level ‘facts and figures’ to inform planning on sexual and reproductive health interventions for adolescents. There is therefore a need to understand and identify the determinants of explicit patterns of sexual behaviour and practices among adolescents, predictors and age of onset of active sexual life and lifetime impact of sexual behaviour on adolescents (Folayan et al., 2016). It would therefore appear pressing for adults and parents to tackle adolescent sexuality practically bearing in mind that many factors influence young people’s behaviour, including, socioeconomic status, race or ethnicity, family structure, educational aspirations, and experiences of life (Conklin, 2012). The following sections identify key public health implications arising from unsafe sexual experimentation during adolescence.

1.4.1. Sexually Transmitted Infections (STIs).

STIs are bacteria, viral or parasitic infections transmitted from person to person mainly through unprotected sexual contact, (such as; vaginal, anal and oral sex). Although some STIs can also be transmitted through non-sexual means that is, blood or blood products (WHO, 2016e). In addition, there are eight main sexually transmitted infections. Four of these are presently curable, namely: syphilis, gonorrhoea, chlamydia and trichomoniasis. Four are viral infections and are incurable, these include; hepatitis B, herpes simplex virus (HSV or herpes), HIV, and human papillomavirus (HPV) (WHO, 2016e). STIs can be prevented by applying the counselling and behavioural approaches such as, comprehensive sexuality education, pre-and post-test counselling for STI and HIV; counselling on safer sex or risk-reduction, condom promotion; interventions aimed at key populations at risk, such as sex workers, homosexuals and injection drugs user; and education and counselling channelled to the needs of adolescents (WHO, 2016e).

1.4.2. HIV/AIDS.

HIV stands for Human Immunodeficiency Virus, while (AIDS) Acquired Immunodeficiency Syndrome (AIDS) is the most advanced stage of HIV infection (WHO, 2016f). This is a virus that weakens a person’s immune system by damaging essential cells that fight disease and infection in the body (Centre for Disease and

Control [CDC], 2016). It can be transmitted through the exchange of some bodily fluids from infected individuals, such as blood, breast milk, semen and vaginal secretions (WHO, 2016f). Currently no successful cure exists for HIV. Some of the risk factors for this virus include unprotected anal or vaginal sex; having another sexually transmitted infection such as syphilis, herpes, chlamydia, gonorrhoea, and bacterial vaginosis; sharing contaminated needles, syringes and other injecting equipment and drug solutions (WHO, 2016f). Some of the ways HIV/AIDS can be prevented include; promoting the use of male or female condom, testing and counselling for HIV and STIs, voluntary male circumcision, post-exposure prophylaxis for HIV (PEP) and increase in awareness (NACA, 2015; WHO, 2016e).

1.4.3. Adolescent Unintended Pregnancy.

Adolescent unintended pregnancy is a pregnancy that occurs due to unprotected sexual intercourse, which in most cases is either unwanted (at the time of conception) unplanned or mistimed (occurs earlier than desired) (CDC, 2015). This is a global public health challenge. Some of the outcomes of unintended pregnancy are increase in infant mortality, more infant illness, dropouts from school among adolescents, less educational and developmental opportunities for the women or young girls involved, increase in undernourished children due to the inexperience of the female adolescent mothers, child abandonment, fostering, adoption, child abuse, infanticide, complications during childbirth due to the under-developed bodies of the adolescent parents, VVF and in some cases, young women may seek unsafe abortion risking maternal mortality (Askwe, 2012; WHO, 2016d). Previous studies have also reported an increase in pregnancy complications related to adolescent pregnancy, some of these include; anaemia, hypertension, eclampsia, prolonged or premature labour, dysfunctional labour, pregnancy-related infections, postpartum haemorrhage, premature rupture of membrane and increased rates of premature and/or low birth weight babies (Osaikhuwuomwan and Osemwenkha, 2013).

Table1.1. The WHO Action Guidelines (2011) with the United Nation Population Fund (UNFPA) identified the following recommendations.

Preventing early pregnancies.
Reducing poor reproductive outcomes including preventing unintended pregnancy.
Reducing early marriage (before the age of 18).
Building understanding and support to lessen pregnancy before the age of 20
Accelerating and promoting the use of contraception among adolescents.
Reducing coerced or forced sexual activities among adolescents.
Reducing unsafe abortion among adolescents.
Enhancing the use of trained antenatal, childbirth and postnatal care among adolescents

Source: (WHO, 2011)

1.4.4. Unsafe abortion.

Unsafe abortion is an importunate, preventable public health issue globally (Grimes et al., 2006). The World Health Organization (WHO) defines an unsafe abortion as a method of eliminating a pregnancy conducted by persons lacking the required skills in an atmosphere, not in agreement with minimal medical standards (Ganatra et al., 2014). Women, as well as adolescent girls, with unwanted pregnancies, may opt to be subject to unsafe abortion due to the inaccessibility of safe abortion (WHO, 2016f). Some of the outcomes of unsafe abortion included; incomplete abortion (incomplete removal or expulsion of all of the pregnancy tissue from the uterus); haemorrhage (heavy bleeding); infection; uterine tear (this is when the uterus is pierced by a sharp object); and damage to the genital tract and internal organs through insertion of dangerous objects (e.g. knitting needles, sticks or broken glass) into the vagina or anus, in some cases resulting in death (Haddad, 2009). Some other consequences of unsafe abortion are loss of productivity, economic weight on the public health system, societal stigma and long-term health problems such as infertility (Adogu et al., 2014). Similarly, unsafe abortion can be prevented through correct sexual education, use of effective contraception as well as emergency contraception in order to prevent unintended pregnancy or by providing safe, free at the point of delivery, abortions services (WHO, 2016f).

1.5. RESEARCH QUESTION.

How might demographic and attitudinal factors influencing adolescent sexual development in the Nigerian context be best employed in order to tailor specific public health interventions in adolescent sexual development?

In order to address the research question, a longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria was implemented.

1.6. RESEARCH OBJECTIVES.

The objectives of this study are as follows;

1. To critically investigate factors associated with sexual development amongst a sample of school-based adolescents in Oyo state, Nigeria;
2. To develop and evaluate multi-variate models that inform causal speculation about patterns of sexual development;
3. To identify clusters or trajectories of sexual development, including problematic patterns associated with sexual experimentation, amongst this population; and,
4. To capture and qualitatively investigate participants' subjective understandings of their evolving sexual development.

CHAPTER TWO

LITERATURE REVIEW

2.1 CHAPTER OVERVIEW.

This chapter will begin by giving a brief account of the search methods together with the relevant the epidemiological evidence. This chapter is organised into three major sections, which include:

- ❖ Factors influencing adolescent development in Nigeria;
- ❖ The Public Health implications of “risky” sexual adolescent choices and actions; and,
- ❖ Public Health responses to “risky” adolescent choices and actions.

2.2. LITERATURE REVIEW SEARCH METHODS.

In order to search for related literature, a broad search was carried out using the following electronic databases: NORA, Pub-Med, CINAHL, Science-Direct Google Scholar, Mimas, ProQuest, Cochrane library. Grey literature and unpublished MPhil and PhD Thesis were also included in the search. The keywords were developed using the Population (P), Exposure (E), Outcome (O) framework (Khan *et al.*, 2011). Below are the key search terms and their alternatives used.

Table 2.1: Showing the key search terms and their alternatives.

Key terms		Alternative terms used
P	Adolescents	Young girls, teenagers, young boys, young people
E	Risky Sexual Experimentation	Risky sexual behaviour, unprotected sex, multiple sexual partners, early sexual debut. Sexual coercion, transactional sex, trans-generational sex,
O	HIV, STIs and Unintended pregnancy, unsafe abortion.	Unplanned or unwanted pregnancy, sexual infections.

When searching the relevant literature, the following key words were used separately and combined with the words: “risky sexual experimentation*” OR risky sexual

behaviours, unprotected sex, multiple sexual partners, early sexual debut, sexual coercion, transactional sex, trans-generational sex; “HIV, STIs and unintended pregnancy, unsafe abortion*” OR unplanned or unwanted pregnancy, sexual infections; “Adolescents*” OR young girls, teenagers, young boys, young people. The asterisk denotes the special symbol to abbreviate a search term in order to search for all the diverse words of the terms. With adolescents*, for example, the search engine showed all words with ‘adolescents’, that is young girls, teenagers, young boys, young people, youths. The use of the Boolean operator ‘OR’ was integrated as a search engine to retrieve studies with any other synonyms. Excluder tabs were further used in Medline search database so as to narrow the search results. In order to limit the result to Nigeria, the country of focus in this study, the geography excluder tab was used. Furthermore, the age excluder tab was used to filter down the search results to limit them to the population of interest, which are adolescents. Alternatives used from the age excluder tab were women, mothers: adolescents 10-19 years; male adolescents: 10-19years; female adolescents: 10-19years; young people: 10-19years, youths: 10years-19years, unmarried adolescents: 10-19years. Major topics and abstracts that were clearly not relevant to the aims of this appraisal were excluded, some of which include abstracts on adolescent entertainment, adolescent psychology.

Table2.2. Summary of search results.

No	Databases	Number of Hits
1	Mimas	953
2.	Science direct	1168
3	Web of knowledge	112
4	Medline	78
5	PUB-MED	214
6	Nora	2525
	Total	2625

2.3. EPIDEMIOLOGY.

STIs including HIV and unintended pregnancy among adolescents remain a public health burden, in spite of the long-term effort to prevent them (Osorio et al., 2015).

Unsafe sex may result in STIs including HIV infections, as well as unintended pregnancy (Biddlecom et al., 2007; Adogu et al., 2014). Globally, there are about 1.2 billion adolescents (10-19 years) constituting 18% of the World population with almost 90% of this number living in developing countries (UNICEF, 2011; WHO, 2015). For instance, in Sub-Saharan Africa, 1 in every 6 populace is an adolescent and by 2050 this is projected to constitute a greater proportion of the total population than any other region of the world (UNICEF, 2011, WHO, 2016c). Recently, adolescent sexual behaviour has received global interest with a high proportion of new cases of HIV and other STIs diagnosed amongst young people (Alex-Hart et al., 2015).

The number of adolescents who are involved in SRB which put them at risk of unwanted pregnancy, HIV and STIs remains on the increase globally (Kalmuss et al. 2003; Oluwatoyin and Modupe, 2014). The poor level of information and guidance about sex and sexuality makes young people susceptible to these diseases, as well as physical, emotional and economic mistreatment (Oluwatoyin and Modupe, 2014). Choudhry et al., (2015) highlighted that the social and developmental contexts in which young people are immersed increases the risk of STIs including HIV. Significant contextual factors include vocational and educational opportunities, economic inequity, gender inequality, formation of partnership, dynamics in power within relationships, time and description of sexual debut, and biological factors such as being of the female gender and timing of puberty. Leaving aside STIs, these factors impact upon rates of unplanned pregnancy. However, sexual transmission remains a major means of acquiring HIV/AIDS - although this can also be transmitted through other means (For example, blood transfusion, sharing needles, syringes and other injecting equipments, blood transfusion, from mother to baby during breastfeeding and birth etc.) (Olugbenga-Bello et al., 2009).

The HIV/AIDS pandemic remains a major public health burden in sub-Saharan African countries (Omoyeni et al., 2014), as the region happens to have the highest prevalence of HIV/AIDS in the world (UNAIDS, 2013; Avert, 2015). In 2013, roughly 35 million people were living with HIV globally with 24.7 million of those living in sub-Saharan Africa (UNAIDS, 2014; Avert, 2015). Furthermore, ten countries; Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe account for 81% of all people living with HIV in Sub-Saharan Africa with half this number in Nigeria and South Africa (UNAIDS, 2014). Although

the total number of HIV-related deaths has decreased by 30% since the peak 8 years ago in 2010, estimates suggest that HIV deaths among adolescents are rising (WHO, 2016c). Idele et al. (2014) stated that the vast majority of new HIV infections are transmitted through sex. Recently, over 2 million adolescents were reported to be living with HIV infection with more cases and death pre-dominating in Sub-Saharan Africa (WHO, 2016B). This statistic accords with UNAIDS (2014) who reported that 3.2 million children younger than 15 years are living with HIV and 4 million young people aged 15–24 are living with HIV, 29% of whom are adolescents aged 15–19 years. (UNAIDS, 2014). Unfortunately, only 10% of young men and 15% of young women aged 15 to 24 are aware of their HIV status in Sub-Saharan Africa (WHO, 2016c). This may be due to the poor levels of knowledge, ignorance, cultural or religious belief, insufficient access to health care facilities and the fear of knowing. Similarly, only eight male condoms were available per year for each sexually active individual in sub-Saharan Africa, with access to condoms reported to be lower amongst young people (UNAIDS, 2014). Although, the availability of condoms varies between countries and also varies widely within individual countries (UNAIDS, 2014). Amongst adolescents and young people, knowledge regarding HIV prevention remains extremely low. Moreover, amongst adolescents aged 15-19 years there seems to be a pattern of less knowledge compared to young adults aged 20–24 years (Idele et al., 2014). Thus, the need to sustain HIV/AIDS awareness over time with successive generations of adolescents would appear to be self-evident.

Unintended pregnancy among adolescents is likewise a common public health problem globally as it a key contributor to maternal and child mortality, and to a vicious cycle of poverty and ill-health particularly in developing countries (WHO 2016d). This is because, adolescent mothers may transfer to their children a bequest of poor health, poor education and sustenance living, that sustains a cycle of poverty which, in most cases, is difficult to break (WHO, 2007; Adogu et al., 2014; WHO, 2016d). Adogu et al., (2014) identified female adolescents enduring unintended pregnancy were more apt to be children of mothers with limited or no school education, and those with a history of unintended teenage pregnancies themselves.

Similarly, global evidence reveals that young girls face a higher burden of maternal mortality and morbidity (Cortez et al, 2014). Approximately, 16 million girls aged 15 to 19 and an estimated 1 million female adolescents under 15 become pregnant and give

birth every year. Of these births 95% occur in low and middle income countries: over 30% of girls in low and middle income countries marry (or are married off) before the age of 18, with 14% being married off before age 15 (WHO, 2012; WHO, 2016d). This practice predominates in the Northern part of Nigeria where (paradoxically) it appears to be culturally accepted that it is better for a girl child to be married off early than to risk her becoming sexually promiscuous. In-addition, the average global birth rate among 15 to 19 year olds is 49 per 1000 girls. Country rates vary ranging from 1 to 299 births per 1000 girls, with the highest rates found in sub-Saharan Africa (WHO, 2016d). According to Osaikhuwuomwan and Osemwenkha, (2013) high rates of teenage pregnancy in developing countries can be ascribed to factors such as: lack of correct sexuality education, poverty, early sexual debut, sexual assaults the influence from peer groups, lack of knowledge and/or ineffective use of contraceptives, low socioeconomic status, family instability, early age of marriage and 'cultural liberalism'. Correspondingly, early sexual debut and coerced sex have also been identified as major factors influencing adolescent pregnancy (Adogu et al., 2014). In-addition, Adogu et al., (2014) argued that the majority of adolescents are conscious that 'licentious' sexual activity may put them at risk of getting pregnant or contracting HIV and other STIs. However, their knowledge often appears to be laced with myths and lacking of scientific evidence. Examples of these myths include the belief that a young girl cannot get pregnant during her first sexual encounter or if she has sexual intercourse while standing up (Adogu et al., 2014)

WHO (2016d) further reported that pregnancy and child-birth are the second most prevalent cause of death among 15 to 19 year olds globally. In the same vein, Adogu et al., (2014) stated that adolescent childbearing causes both maternal and child health risks (namely haemorrhage, toxemia, anaemia, infection, HIV infection, malnutrition, cephalo-pelvic-disproportion, obstructed labour, vesico-vaginal fistula (VVF), low birth weight and perinatal and maternal mortality). One study conducted among adolescents in Nigeria, revealed that, 36% of adolescent pregnancies end up in abortion (Onyeka et al., 2011).

Globally, unsafe abortion remains one of the most significant (yet neglected) sexual and reproductive health problems today (Grimes et al., 2006), with about 3 million unsafe abortions recorded annually among girls aged 15 to 19, contributing to maternal deaths and to lasting health problems (Oluwatoyin and Modupe, 2014; WHO, 2016d). The

Alan Guttmacher Institute (2016) estimated that 8-18% of maternal deaths worldwide are as result of complications from unsafe abortion. Due to the legal and social limitations on access to abortions in various parts of the world, adolescents frequently opt to risk unsafe abortion. These procedures are mostly conducted by unskilled providers especially in the developing world (Grimes et al., 2006; WHO, 2007). It has been estimated that 14% of all unsafe abortions in developing countries are performed on adolescent girls aged 15–19 years (WHO, 2007). Similarly, of all the unsafe abortions executed in developing countries, Africa accounts for 25%, whereas Caribbean and Latin America is responsible for 15% (Grimes et al., 2006; WHO, 2007). Some of the reasons why adolescent girls end up aborting pregnancies by unsafe means were identified by both Grimes et al. (2006) and Adogu et al. (2014). These include: pregnancy as a result of incest or sexual abuse; contraceptive malfunction; worries and fears of disappointing parents; the belief that pregnancy will bring shame to the family; fears of eviction from the family home, school or job; fears of having difficulty in later finding a marriage partner; lack or insufficient financial means to cater for a child; aspiration to complete education or realize other goals, and strong dislikes for the specific impregnating man.

Moreover, WHO (2016d) suggested that pregnancies among adolescents were more likely to occur in poor, uneducated and rural communities. Adolescent pregnancy in most cases has negative social and economic effects on girls, their families and communities at large (WHO, 2016d). Numerous female adolescents who become pregnant have to drop out of school due to lack of support and/or shame, particularly in developing countries. Consequently, such girls end up with fewer or no education and fewer skills, capital and prospects of future employment. This pattern also carries a national economic impact with countries losing out on the annual income a young woman would have earned over her lifetime (Adegoke, 2003; Oluwatoyin and Modupe, 2014; WHO, 2016d). The social and economic impacts of adolescent pregnancy and childbearing are dependent upon the adolescent's specific cultural, family and community context. For instance, in African countries like Nigeria, adolescent pregnancy is connected with a catalogue of social ills including: school drop-out and low educational attainments, poverty, restricted employment opportunities, reliance on social welfare (if available), and denunciation by family members' intolerance, psycho-social stress, compulsory or forced marriage and violence (WHO, 2007; Adogu et al., 2014). Osaikhuwumwan and Osemwenkha, (2013) further stated that adolescent

mothers are at psychological risk as they experience a high level of stress, despair, depression, feelings of helplessness, low self-esteem, a sense of personal failure, and are prone to suicide attempts.

Given these documented consequences, it begs the question of why adolescents risk engagement in unprotected sex. Michelle et al., (2009) identified reasons such as wanting to prove their fertility (within or outside marriage), lack of knowledge about contraception, fear of contraception side effects, misinformation about the risk of pregnancy and STIs, concerns about the safety of condoms, and insufficient or inaccurate sexuality education. Similarly, Hargreaves et al., (2008) noted that the factors associated with early sexual activity are usually complex and not only health related but also educational. For instance, it appears that adolescents who stay longer in school are less likely to become involved in risky sexual activities; however, it is unclear if this association is an artefact of the tendency for sexually active adolescents that are involved in risky sexual behaviour to drop out of school.

2.4. FACTORS INFLUENCING ADOLESCENT SEXUAL DEVELOPMENT IN NIGERIA.

This section starts by giving a brief account of adolescent sexual development in a Nigerian context, followed by the description of factors influencing Adolescent Sexual development adapting the Socio-Ecological Model level (the Micro, Meso, Exo and Macro Level (Bronfenbrenner, 1979) risk and protective factors for adolescents sexual behaviour. The Social Ecological Model (SEM) is a theory-based framework used for understanding the comprehensive and interactive effects of personal and environmental factors that determine human behaviours (Bronfenbrenner, 1979).

2.4.1. The Nigerian context.

Nigeria is the most populous nation in sub-Saharan Africa, and the seventh most populous in the world (Population Reference Bureau, 2013; Cortez et al., 2015). According to the 2006 'Population and Housing Census' Nigeria has a population of 140,431,790, with a national growth rate approximated at 3.2% per annum (National Population Commission [NPC] Nigeria and ICF International, 2014). About 22% of the total population are young people between the age of 10-19years (Cortez et al., 2015), and it is estimated that 33% of adolescents aged 15-19 are sexually active, with the

average age of sexual debut around 15 years (NPC and ICF International, 2014). As a country, Nigeria accounts for about 14% of the total global burden of maternal mortality, with 576 maternal deaths per 100,000 live births occurring and a national fertility rate for adolescent age 15-19 years is 122 births per 1,000 (NPC, and ICF International, 2014).

Average age at marriage for women in Nigeria has been increasing in recent years, but many young women in Nigeria continue to get married off as early as in their teenage years (Cortez et al, 2015). This practice continues in spite of the *Child Right Act of 2003* stating the legal age for marriage in Nigeria is 18 years old. This continuation is mostly due to the parallel systems - Islamic and 'customary beliefs' that operate across the country particularly in the North. Enforcement of the *Child Right Act* therefore remains partial (Cortez et al., 2015). Nationally about 1 in every 4 girls is married by or before the age of 15. This reveals a constant high prevalence of underage marriage, particularly in the rural and Islamic settlements (Cortez et al, 2015; NPC and ICF International, 2014). Recent evidence reveals that 45% of girls and 31 % of boys drop out of secondary school over the course of their school careers (Cortez et al., 2016). This is attributed to poverty, dearth of support systems, decreased opportunities, and early marriage, particularly for girls (Viner et al., 2012). Subsequently, adolescents who drop out of school are more susceptible to risky behaviours, as well as risky sexual behaviour, violence, and drug use (Cortez et al., 2016).

Imaledo, Peter-Kio and Asuquo, (2012) reported that about 1 in 5 of sexually active females and 1 in 12 sexually active males had already engaged in sexual intercourse before or by the age of 15 in Nigeria. This perhaps suggests that females are more exposed to sexual intercourse earlier than male adolescents. This may in part be due to gender inequalities rendering girl-children vulnerable. According to Oluwatoyin and Modupe (2014) early sexual debut is associated with a higher lifetime number of sexual partners, which may increase the risk of STI including HIV/AIDS and unwanted pregnancy. The National Agency for the Control of AIDS (NACA, 2014), highlighted that the main route of HIV transmission is through sexual transmission (this accounts for about 80% of HIV infections in Nigeria). According to the National HIV/AIDS and Reproductive Health Survey [NARHS] (2013) report, 83% of female respondents and 78% of the male respondents to the survey had already had sex. However, 37% of the females and 20% of the males aged 15-19 years reported having sexual intercourse

(although this depicts a slight decrease from 2007 NARHS estimate of 43% among females and 22% among males). Females in the North East and North West regions of Nigeria reported the lowest median age at first sex (15 years). For males, the lowest reported age occurred in the South-South region (16 years). When compared to other age groups, research has revealed low levels of condom use among young people (15-24) that are sexually active in Nigeria (NACA, 2014).

Similarly, reports showed that approximately, 55% of young people used male condoms during their last sexual contact with a non-marital partner. The percentage was higher in males (63%), compared to females (45%) and also higher in urban (63%) than rural (50%) areas (NARHS, 2013). Furthermore, the use of condoms was highest among young people in the South West (62%) and lowest in the North-East (51%) (NACA, 2014). NARHS (2013) revealed that 5% of females and 7% of males reported to have received gifts or money in exchange for sex. However, the percentage of respondents that received or gave gifts or money in exchange for sex was reported to be higher among the young people aged 15-29 years and in urban areas. This was also highest amongst females in South-South (13%) and in the South-East for males (10%).

In Nigeria, abortion is greatly restricted by law; as a result of this, the procedure is usually executed either by a traditional healer, unskilled person, self-induced or clandestinely under unsafe conditions, which often results in serious health and social outcomes (Adogu et al., 2014). More likely, the risk of complications associated with abortion is often advanced in female adolescents than in older women. This may be because they tend to delay having an abortion until after the first trimester as they are not aware or may not recognize that they are pregnant. They may dread the process of abortion, fear parental reaction and the need for time to secure money to pay for the process (Raufu, 2002; Adogu et al., 2014). Therefore, adolescents are more likely to delay abortion than female adults and also defer to unskilled persons to carry it out, using dangerous methods and present late when complications occur (Adogu et al., 2014).

2.4.2. Risk and protective Factors for Adolescents Sexual Behaviour.

The sexual practices and behaviours exhibited by adolescents may have short and long term positive or negative consequences (Mmari and Sabherwal, 2013). A number of studies have continually revealed that a broad range of factors such as individual, peer, family, school, and community factors influence sexual decisions (Kirby, 2007b; WHO,

2010; Pilgrim and Blum, 2012; Mmari and Sabherwal, 2013). However, amongst each of these levels, factors can be highlighted as risk factors when they enhance the chances of negative sexual behaviours that could lead to unintended pregnancy or STIs. On the other hand, factors can be identified as protective factors, when they either enhance a positive behaviour that could prevent unwanted pregnancy or STIs such as using contraception or discouraging negative risk behaviours (Mmari and Sabherwal, 2013).

The process of categorizing the risk and protective factors for various adolescent sexual and reproductive health behaviours and outcomes is vital for initiating effective interventions; when what influences the adolescents' decision whether or not to have sex, or to guide themselves against unwanted pregnancy or STIs is known. Thus, policies and programmes can be planned to address the factors that can be influenced or changed. Evidence from previous research conducted in the US demonstrates the effectiveness of this approach (Catalano et al., 2002; Lonczak et al., 2002; Catalano et al., 2012). Also, it is assumed that, when this approach is employed in developing countries, there is assurance of effective adolescent sexual and reproductive health programming and intervention (Catalano et al., 2012; Viner et al., 2012).

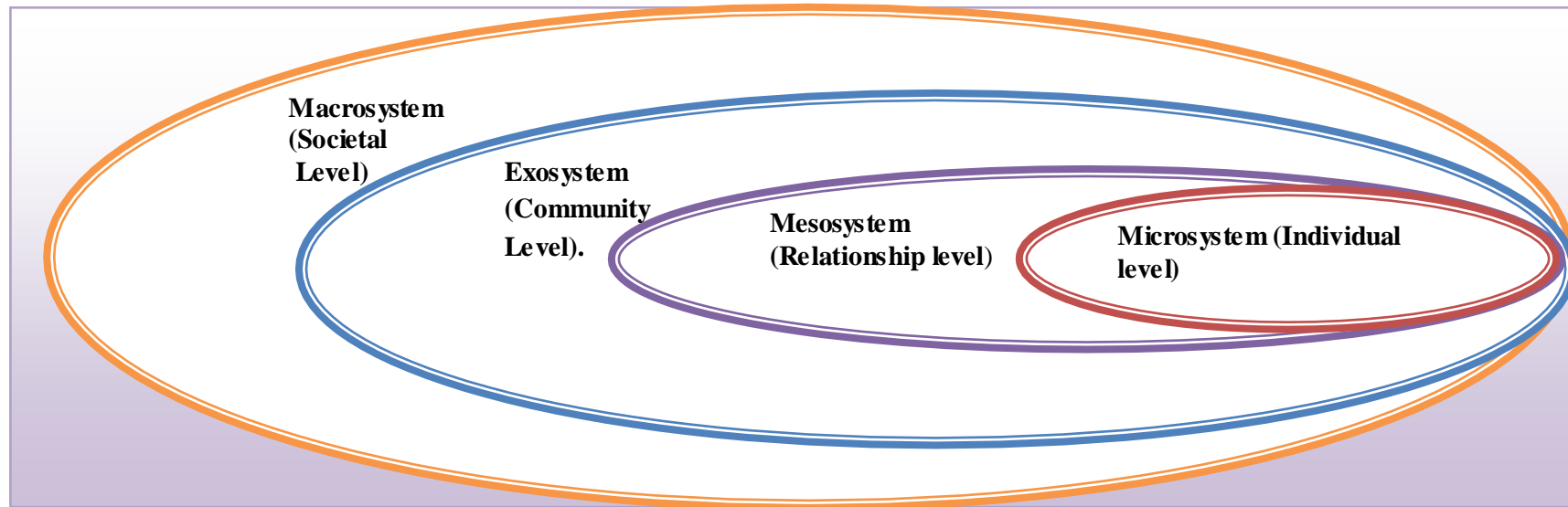
2.4.3. Description of factors influencing Adolescent Sexual development adapting the Socio - Ecological level.

Factors influencing adolescent sexual development will be highlighted using the Social Ecological Model (SEM). Over the past few years, researchers and practitioners in various fields of public health have started to identify the significance of accepting a social-ecological point of view (DiClemente et al., 2002). A socio-ecological view entails investigating the behaviours of individuals within the framework of their social and physical environment. Socio-ecological factors consist of cultural influences, family influences, societal and peer influences (Bronfenbrenner, 1979). Stokols (1996) states that this model focuses on the complexities and intertwined relationship between socioeconomic, cultural, political, environmental, organizational, psychological, and biological determinants of behaviour (Stokols, 1996). The SEM originated out of the work of numerous and prominent researchers. These are; Urie Bronfenbrenner's Ecological Systems Theory (1979), which addresses the relationship between individual and the environment; Kenneth Mc Leroy's Ecological Model of Health Behaviours (1988), which categorized various stages of influence on health behaviour; and Daniel

Stokols's Social Ecological Model of Health Promotion (1992, 2003), which acknowledged the major assumptions that underpin the SEM. These works coupled with the work of other researchers have been used, adapted, and developed into what is known as the Social Ecological Model. This model is related to the fact that behaviour is influenced by factors at different levels even though it is largely the responsibility of individuals to institute and maintain a healthy lifestyle which is essential to reduce risk and improve the health of individual. SEM can be conceptualised in diverse ways depending on the issues they are used to address. Similarly, conceptualisations of the socio-ecological models according to the Urie Bronfenbrenner's Ecological Systems Theory (1979) may range from four to five layers, (that is, microsystems, mesosystem, exosystems, microsystems and chronosystems) depending on the requirements of the situation or issue addressed. For the purpose of this thesis, four interlocking phases of influence were used; the microsystems, mesosystems, exosystems, macrosystems. The model in Fig.2.1 is an adapted Urie Bronfenbrenner's Ecological Systems approach; it describes the four interlocking phases of influence that build up to varying levels of investigation.

The microsystem represents the individual and personal characteristics that predispose an adolescent to sexual risk-taking behaviour. This may include biological and psychological developments, gender and age, education, income if any, knowledge, attitudes, skills and belief acquired. The mesosystem represents the relationship level which describes everything which they have a direct influence on a person's behaviour and adds to his or her experiences. This may include the interactions between adolescents and family members, close partners, friends and peers which have a significant influence on adolescents' behaviours. The exosystem represents the community level. This indicates the social networks through which an individual has social relationships including school, workplace, church, neighbourhood, norms, values and standards. The macrosystem captures the societal characteristics, the wider context through which adolescents, institutions and communities are embedded and, consequently, may have a strong effect on adolescents' behaviour. These include; socioeconomic status, media, cultural and social norms, social policies, national health care policies, gender/ethnic prejudice. The diversity of influences between spheres in due course forms adolescents' behaviour.

Figure 2.1. Socio-ecological model.



Source: Adapted from Urie Bronfenbrenner's Ecological Systems Theory (1979).

Table.2.3. Review organised around the four interlocking phases (micro, meso, exo, macro elements) of Bonfenbrenners model.

Level	Significant elements.	Example – why this is important / significant?
Microsystem	Age, Psychological, Biological Educational, Knowledge, Attitudes, Skills and Beliefs, Religion, Poverty and Wealth, Ethnicity.	This has most immediate and direct impact on an individual's development including sexual development.
Mesosystem	Family Peers/friends (Including peer pressure).	This provides the connection between the structures of an individual's microsystem
Exo-system	Mass media Community/Neighbour-hood School	This is the larger social system in which an individual does not function directly. The structures in this layer impact an individual's development by interacting with some structure in his/her microsystem.
Macro-system	Culture Socioeconomic The Policy and legal	This is considered the outermost layer in individual's environment. Describes the culture in which individuals live. The macrosystem evolves over time, because each successive generation may change the macrosystem, leading to their development in a unique macrosystem.

Source: (Bronfenbrenner, 1979).

1. MICROSYSTEM (INDIVIDUAL LEVEL).

Individual-level refers to a person's characteristics inborn or acquired, that directly or indirectly influence adolescent sexual behaviour. For the purpose of this thesis, a range of personal characteristic will be discussed.

(a). Age-related factors.

Adolescents have earlier been defined as young people between the ages of 10– 19 years (WHO, 2016a). During this phase of life, significant cognitive development takes place; that is adolescents build up abstract thinking and reasoning. On average girls attain puberty earlier than the boys, The biological changes of puberty, which are

interrelated happen in a set order that are more evident in girls, For instance, the first sign of sexual maturation in girls is growing of breast buds which occurs between the age of 8 to 11 years and the progression of its growth to adult size breast takes place within 3 to 4 years, and is generally completed by age 14 (Okonofua, 2014). This may perhaps cause some kind of attraction from older member of the opposite sex, thus exposing young girls to early sexual activity including unprotected sex. However, generally, physical body changes commence in early adolescence. During this stage both male and female adolescents may be apprehensive about their body image. They may be preoccupied with physical changes and conscious of looks and anxiety about secondary sexual characteristics. Their peers are used as a standard for normal appearance, sexual drive emerges and they begin to explore ability to date or attract a partner (Okonofua, 2014). Late adolescence brings a sense of identity emotionally; social involvement, interaction between peers, as well as sexual interest (Kar, Choudhury, & Singh, 2015).

However, middle and late adolescents aged 15–19 years, are predominantly more likely to engage in increased sexual experimentation (Doyle et al., 2012). This corroborates Raffaelli and Crockett's (2003) report that age has always been related to sexual behaviour, with older adolescents involved in increased sexual risk-taking behaviours. This lifestyle proceeds into adulthood, in that, older single adults were stated to use condoms less frequently than younger single adults (Robinson, 2010; Rottermann and McKay, 2009).

In addition, during early adolescence, different behavioural experimentation is observed, in middle adolescence risk-taking is seen, while late adolescents learn to measure their own risk-taking (Resource Centre for Adolescent Pregnancy Prevention, 2003). During adolescence, the developmental, physiological and behavioural alterations that take place are capable of contributing to an increased risk of contracting STIs including HIV and of experiencing unintended pregnancy (Dixon-Mueller, 2008). Kirby and Lepore (2007) also state that an adolescent is much more likely to have sex as they get older. More so, adolescents are more likely to initiate sex early, if they start menarche early, physically appear matured at an early age and look older than their age. Similarly, Michelle et al., (2009) hypothesized that a large number of men and women become sexually active during adolescence. Thus, there is

a need to channel correct comprehensive sexuality education as soon as adolescence is approached.

(b). Biological factors.

Biological development factors are vital in relation to sexual risk-taking behaviour, independent of the age of the adolescents (Blum, and Mmari, 2005). For instance, Menschutz et al., (2001) who analyzed the age of puberty in relation to sexual risk-taking behaviour among adolescents in Kenya, found that attaining puberty at an early age is a considerable risk factor for experiencing sexual intercourse; and this was identified in both genders (although this study was a secondary study drawn purposively from rural primary and secondary schools in Kenya).

Biological factors are genetic and neuro-endocrinal factors that establish the biological sex also influence the psychological sex (Kar et al., 2015). During adolescence, the secondary sexual features are displayed as a result of this neuro-endocrinal influence. The gonadal hormones, cortisol, and other various hormones also play a role in causing the inducing the inception of puberty (Gardner et al., 2012). Some of the secondary sexual features include; the development of pubic hair and axillary hair in both male and female adolescents, though these take a gender-specific growth pattern. Also, in males, genital enlargement occurs, growth and development of a beard and moustache, while the body build takes a typical masculine shape. However, in females, breast development occurs; menstruation starts, genitalia takes an adult shape, while the body becomes more feminine (Kar et al., 2015). Notably, adolescents' curiosities for sexual relationships are also influenced by the hormones as the physical, psychological and cognitive development attains its peak (Kar, et al., 2015). Ott, (2010) highlighted that an individuals craving for intimacy and lovemaking with the opposite gender increases during adolescence and hence, they find various ways to express the love and intimacy, which may predispose them to sexual risky behaviour.

Kirby and Lepore (2007) state that as adolescents get older they have more chances to engage in sexual activities more often and with multiple partners. In some cases, adolescents use condoms during their first sexual debut, (who are aware of the consequences of unprotected sex). Likewise, older adolescents are more likely to use a long-lasting contraception, such as oral contraceptives or Depo Provera. This is because as adolescents get older there are higher chances of engaging in increased sexual intercourse (either planned or unplanned) which could lead to pregnancy (Kirby

and Lepore, 2007). Kar et al., (2015), further stated that an individual's personality or temperament is a key psychological factor that influences attitude toward sexuality. For example, adolescents who are introvert may face complexity in approaching and responding sexually or to their sexual needs. Several of these biological factors cannot be altered. However, they can be used to identify young people who may be more vulnerable to sexual risk-taking and by so doing influence some attitudes associated with biological factors. For example, gender roles perception or opportunity of sexual activity among different age groups (Kirby and Lepore, 2007).

(c). Psychological factors.

Psychological factors have been linked to adolescent sexual development either as a protective factor or risk factor. According to Kalina et al., (2009) psychological factors include self-esteem, psychological well-being, extroversion, neuroticism, religiousness. Kirby and Lepore (2007) highlighted that adolescents who experience a psychological disorder such as depression, feelings of suicide and or fear of premature death are more liable to have sex. These researchers further state that adolescents who experience such emotional distress may be less motivated to prevent pregnancy or STIs and reduce their capability to consider risk. This may be more prominent in early adolescents as they tend to exhibit loneliness, mood swings and react emotionally rather than logically when under stress, social awareness and so on (Okonofua, 2014). On the other hand, the emotional imbalance may be caused by a depressing environment, which may also lead to sexual risk-taking. Furthermore, Shrier et al., (2001) affirm that there is an increased risk that depression may negatively influence self-determination and negotiation skills for condom use, which can influence self-efficacy for condom use among adolescents. Shrier et al., (2001) further hypothesized that depressed adolescents may think that contracting an STI is beyond their control; this external ascription may, however, decrease their intentions or self-efficacy to engage in safer sex practice. Similarly, Kotchick et al., (2001) found that among female adolescents low self-esteem is associated with low or inconsistent use of contraceptives. Also, diverse pointers of psychosocial distress, which commonly happen along with low self-esteem, have been found to be linked with more increased sexual activity (Kalina et al., 2009). However, considering the positive influence of psychological factors, Conklin, (2012) states that adolescents who can envisage optimistic futures for themselves are more likely to sustain healthier sexual behaviours and to stay away from or lessen sexual activities. In the same vein, Lerand et al.,

(2006) found that in their study, conducted using a Caribbean youth health survey of adolescents between the ages of 10-18 years old, that depressed mood among female adolescents was not allied with having multiple sexual partners or with experiencing an unwanted pregnancy. This may be because female adolescents who are depressed may isolate themselves, become less confident in having a relationship or be involved in sexual activities.

Furthermore, Meschke et al., (2000) and Kirby and Lepore (2007) hypothesized that adolescents, with increased cognitive development, are less prone to have sexual intercourse and, if they have sex, they are more likely to use contraception. Moreover, adolescents with a high internal locus of control, (that is, those who believe in who they are, rather than allowing external actions dictate or control their lives) are less likely to have sexual intercourse and if they do, they often use condoms more regularly, and are less susceptible to unintended pregnancy. Pilgrim and Blum, (2012) found out that possessing depressive signs, aggressive temper, decreased level of self-efficacy, involvement in other risk behaviour such as substance use were connected with increased chances of involving in sexual activity. Pilgrim and Blum, (2012) further highlighted that male adolescents with feelings of rage were more likely to have multiple sexual partners, get a girl pregnant and are more likely to have symptoms of STIs. While girls who feel they might not live to 25 years of age (due to their state of health), and those with lower self-esteem, had more chances to experience an unplanned pregnancy (Lerand et al., 2006). This finding is consistent with Kirby and Lepore (2007) who state that physical hostility and the carrying of weapons among adolescents are associated with having sexual intercourse, multiple sexual partners, and unwanted pregnancy, though the relationship may not be directly causal. Kalina et al., (2011) found that there is a higher probability that adolescents with a high level of positive self-esteem and a high level of depression/anxiety as well as a low educational desired level are more prone to having unsafe sexual intercourse. Although high self-esteem and positive self-concept are usually supposed to be protective factors for sexual risk-taking, the depiction is really quite mixed (Shrier et al., 2001; Kirby and Lepore, 2007). Although, Mercy and Agokei (2014) state that advocates of self-esteem, as a 'social vaccine' argue that high self-esteem has the ability to immunize young people against a broad range of vulnerabilities, especially, social vulnerability. Consequently, adolescent sexuality educators placed concentrated relevance on enhancing adolescents' self-esteem as a medium for encouraging healthy

decision making, performance and keeping safe from the negative impacts of sexual risk-taking behaviour.

On the contrary Hughes et al., (2001) argued that improved self-esteem may be strengthening idiosyncratic and egoistical normative ways of behaviour that are likely to add to the deterioration of interpersonal connectedness and consequently produce results that are in most cases unhealthy and potentially unethical. Ugoji, (2013) reported that self-esteem significantly contributes to adolescent sexual risk taking behaviour, in that; adolescents with low self-esteem are prone to having sexual intercourse. Reasons attributed to this may be that an adolescent with low self-esteem may have an inferiority complex, which makes them hold degrading perceptions of themselves. Thus, the likelihood of engaging in more sexual risk taking behaviour; similarly, some adolescents with high self-esteem are also prone to sexual activities, which may be attributed to the fact that they feel they are not at risk, but their high self-esteem promotes pleasurable seeking actions and exposes them inevitably to sexual risk taking behaviour. However, Mercy and Agokei (2014) in their study conducted among adolescents in Nigeria found that positive self-esteem is an important factor that has the capability to prevent or reduce adolescents' risky behaviours; this, therefore, denotes that if intervention is aimed to improve positive self-esteem, there is high tendency that risky sexual behaviours will either be avoided or reduced among adolescents. Also, Shrier et al., (2001) suggest that in order to develop effective interventions to reduce unplanned pregnancy and STIs among adolescents, it is essential to additionally investigate the effect of mental health on SRB among this group of young people using both survey and interview methods to get more broad information. The evidence presented in this section suggests a need to integrate an intervention into the school curriculum programme that could increase self-esteem in young people as well as condom use skill training in order to promote healthy sexual lifestyles among adolescents.

(d). Gender-related factors.

During adolescence, boys and girls experience significant developmental changes and social experiences (UNICEF, 2005). Though changes that occur during adolescence varies with gender (Kar et al., 2015). Usually, these changes occur 12–18 months earlier in females than males. Also, the period adolescents attain maturity can impact their development differently (National Research Council, 2002). However, Blum and Mmari, (2005) argue that irrespective of the gender factor, the probability of

experiencing first sexual intercourse significantly increases with the age of the adolescent. As compared to late maturing boys, early maturing boys have a sense of good body structure; they are more confident, secure and autonomous. Although, due to a surge of hormones, they may express increased aggressiveness, likely to be sexually active and prone to risky behaviour (Susman et al., 2003). On the other hand, early maturing girls are very self-conscious of themselves, feel insecure, and are more likely to develop eating disorders. More-over, they may be more prone to sexual advances from older boys, increased chances of unintended pregnancies and exposure to alcohol and or drug abuse (Susman et al., 2003).

Evidence from previous researchers suggests that both genders are prone to engaging in sexual risk-taking, although the level of risk behaviour exhibited among male and females differs. For instance, adolescent girls are more likely to decline condom use with partners while males are more likely to report more sexual partners. The converse may also be the case, where, boys may feel pressurised to report greater sexual activity than what they are actually engaged in (Lehrer et al., 2006). Mangrulkar et al., (2001) in research conducted in the U.S found out that girls are more at greater risk of negative health outcomes while boys are susceptible to a lower level of risk during this time. This difference in risk may be attributed to cultural norms, gender discrimination, poverty and abuse which can enhance the negative effect on young girls (UN Department of Economic and Social Affairs, 2004). In the same vein, McIntyre (2004), points out that health risks, including sexual health risk exhibited among girls and boys, differ culturally. For instance, in conflict zones, a lot of young girls are at risk of trafficking and sexual abuse while many young boys are usually at risk of being selected as child soldiers (McIntyre, 2004). Futhermore, Jacobs et al., (2003) mentioned that parental beliefs regarding their child (ren)'s capability, based on their gender may influence the child (ren)'s view of their own abilities. The researchers further noted that the roles and expectations of adolescent girls may differ from that of adolescent boys in developing countries. This may be due to differential access to education, opportunities, information and cultural beliefs. Also, the researchers hypothesized that the expectation and desires of adolescent girls and boys may vary by community and culture. The dissimilarity between the adolescent girls and boys in relation to sexual risk needs, and opportunities within each culture have a considerable relevance for programme which should be designed for them. Thus,

adolescent programme must be flexible enough in order to fit into the differing needs of each gender (UNICEF, 2005).

In Africa, gender is one of the permeating determinants of adolescent sexuality; males are more likely to report that they are sexually active at any age compared to females (Okonofua, 2014). However, this could be attributed to the socio-cultural demands in most African societies where females are not expected to report any sexual activity but rather should be conservative (Okonofua, 2014). For example, a study by Sunmola et al., (2003) on knowledge of reproduction, sexual behaviour, and use of contraception among adolescents in Niger State of Nigeria, revealed that 36% of the females compared to 64% of the male adolescents reported sexual experience.

This may be because males generally are more likely to report sexual activity, in an attempt to establish their masculinity. In general, female adolescents are at more risk of sexual activity outcomes, probably because they are usually held up by the norms and values of the society. Hence, they often lack access to evidence-based information and services, and they are more likely to be hassled into coercive sexual activities (Okonofua, 2014).

Similarly, evidence from previous researchers, shows that a gender belief system exerts a great influence on adolescent sexual behaviour, gender belief is the belief, cognitions and ideologies associated with male-female differences and or masculinity and femininity (Robinson, 2010). These belief systems control the way people, situations and events are interpreted, which often then guide our behaviour (Martin, 2000). Jacobs (2002) claims that puberty brings about an increase in gender belief and opportunities. Robinson (2010) claims that there is a link between negative gender beliefs and a range of risky sexual behaviours. For example, Shearer et al (2005), from a sample of college students, discovered that gender-based family role attitudes were associated with risky condom-related beliefs. Furthermore, Santana et al., (2006), claim that sexual infidelity, casual sex partners, unprotected sex and negative attitudes towards condoms were reported among males with traditional gender ideologies.

Furthermore, in various parts of Africa, the impacts of gender in raising the risk of unpleasant sexual outcomes for adolescents have been documented. For example, female adolescents are more prone to be sexually abused in contrast to males and

sexually abused female adolescents are three to four times less likely to report that they are sexually active (Okonofua, 2014).

(e). Educational factors.

In most developed countries, for instance, in the U.S. and Western European countries, schooling and education have been broadly identified as a protective factor for early sexual initiation (Blum, and Mmari, 2005). This report agrees with Gupta, (2000) who points out that having a higher level of education is protective against early sexual debut, but again, this effect was primarily true among females. Although, the situation in developing countries seems different, as the results reveal a very mixed picture of the effects of educational attainment on sexual initiation (Blum, and Mmari, 2005).

However, Chirinos et al., (2000) highlighted that male adolescents who repeated a grade in school were more likely to have engaged in early sexual activity. The findings from a study conducted by Magnani et al., (2002) who evaluated whether in-school status was significantly associated with sexual initiation among adolescents revealed that adolescents who were presently enrolled in school are less likely to have engaged in a sexual relationship, although this finding was more strongly significant among females than males. These differences may be partly due to the multifaceted set of issues that higher education (mostly secondary education) brings for young people (Blum and Mmari, 2005). Although, it is also likely that interactions and communication with schoolmates, less parental supervision and evolving values of adolescents themselves may likely enhance young people's wish to develop sexual relationships before marriage, and increase their chances to do so (Blum and Mmari, 2005).

Furthermore, Kirby and Lepore (2007) stated that participation in school organizations and clubs is associated with less sexual risk-taking behaviour. The research further confirms that when adolescents do some or all of these; (stay in school, feel attached to their schools, earn good grades, study in order not to lag behind in school, aims for higher education above high school, stay away from problems in school) they are more likely to initiate sex later and are less likely to have an unintended pregnancy (Kirby and Lepore, 2007).

(f). Knowledge, attitudes, skills and beliefs.

Enhancing the knowledge of adolescents with regards to sexuality, relationships, reproductive biology and contraception is usually the initial objective of many adolescent reproductive health programmes (Blum, and Mmari, 2005). Blum and Mmari (2005) further hypothesized that these programme enhance improvements in knowledge and may delay the age of sexual debut and also encourage the use of contraception for those that are already sexually active. Similarly, Kirby and Lepore (2007) reported that an adolescent who lacks correct knowledge and appropriate information on risky sexual experimentation may be predisposed to negative sexual attitudes and negative disbelief. Remarkably, adolescents' personal sexual beliefs, values, attitudes, skills, and intentions are usually the strongest risk and protective factors. The likelihood of adolescents having sex, having sex regularly and to have increased sexual partners, is dependent on their liberal attitudes toward premarital sex. Also, most adolescents who have taken virginity pledges and oaths are less expected to engage in sexual intercourse although, it cannot be certain whether they truly engage in less or no sex (Bearman and Brückner, 2001; Kirby and Lepore, 2007). There is a higher probability that sexually active adolescent (male or female) may use condoms or other types of contraception when they perceive that their sexual partner shares similar views towards prevention of STIs and unwanted pregnancy (Diclemente et al., 2001; Kirby and Lepore, 2007). Similarly, Kirby and Lepore, (2007) point out that adolescent positive attitudes enhance the use of condoms bring perceived benefits of their use, such adolescents possess confidence in their capacity to ask and use condoms or contraception when needed, as well as a drive to use condoms or other contraception to prevent unintended pregnancy and STIs including HIV.

Kirby and Lepore, (2007) claimed that adolescents' beliefs and attitudes about sex and contraception, such as condoms can either be a protective or a risk factor. For instance, an optimistic attitude toward the use of a condom is a protective factor while a laissez-faire attitude toward sex enhances risk. In Nigeria for instance, male condoms have been extensively promoted and endorsed as an efficient and effective means of preventing STIs and pregnancy when used appropriately; condoms are relatively cheap, readily available, and do not involve medical administration (Adejuwon et al., 2006). Despite this, in Nigeria, contraception remains under-used by most adolescents (Adejuwon et al., 2002), some of the limitations attributed to condom use are, the false impression that a slipped condom may harm a girl, lack of negotiation skills

particularly among female adolescents, misconception that the use of condom connotes lack of trust or infidelity (Adejuwon et al., 2002; Adejuwon et al., 2006). Notably female condoms are readily available in the country, but the inflated cost is a deterrent for their general use (Adejuwon, et al., 2006). Thus, possessing the skills and motivation to use condoms and contraception and having a high belief in one's own ability to effectively use these skills, guard adolescents against early unintended pregnancy and STIs (Kirby and Lepore, 2007).

(g). Religious factors.

Rohrbaugh and Jessor (1975) hypothesized that religious belief mediates social control in four ways. First is to embed the individual in a controlled, endorsed association that is encouraging of conventional activities and divergent to unconventional ones. Second is that it makes the individual responsive to moral matters and acceptable behavioural standards. The third is that, it presents a divinity as a source of punishment and wrath for wrongdoings. The fourth and final one is that it produces spirituality, which initiates an obedience mindset.

From the African perspective, (the main religions in African include Christianity, Islam and Traditional) religious teaching is often based on the notion that people should not engage in premarital sex or sex outside of marriage. This, therefore, makes sexual activity outside marriage morally improper to those who practise any of these religions (Landor et al., 2010). For example, the Western Christianity-based religion lays emphasis on self-control and living in agreement with moral orders and loyalty such as honesty, responsibility, and respect for authority and one's body (Smith, 2005; Landor et al., 2010). Therefore, adolescents with a high level of religious commitment may be more likely to bring their behaviours in agreement with the moral teachings emphasized through religion (Kirby and Lepore, 2007). Although, the route of causality is not exclusively apparent (Landor et al., 2010). Notably, sexual behaviour may influence attachments to faith communities, which corresponds to how attachments to faiths may influence sexual behaviour. For instance, adolescents who have engaged in sexual activities may feel less at ease in places of worship and may be less interested to attend religious services due to a sense of guilt or disbelief (Kirby and Lepore, 2007). This corroborates with Roskosky et al., (2004) who state that an adolescent with a strong religious affiliation is less likely to initiate sex. Evidence from studies reveals that adolescents who attend religious services are usually less

likely to engage in sex (Rostosky et al., 2004; Smith, 2005; Kirby and Lepore, 2007; Landor et al., 2010).

Roskosky et al., (2004) further state that there is a connection between adolescent religiosity (such as attendance, prayer, affiliation, participation) and sexual attitudes and behaviour. This accords with Steinman and Zimmerman, (2004) who state that increased adolescent religiosity is largely connected with later age of sexual debut and less sexual behaviours such as sex without a condom or with an unknown partner. Laden et al., (2011) hypothesized that adolescent religiosity envisages a wide range of sexual behaviours and does not only it influence first coitus, unprotected sex, or SRB. Consequently, religiosity is not only connected with specific vital changes in sexual behaviour but is also related to the expression of non-coital behaviours such as holding of hands, touching of sensitive body parts and kissing. Rew et al., (2011) revealed that adolescents who involve in sexual-risk behaviours reported significantly lower religious commitment than those not involved. Landor et al., (2010) in their research found out that adolescents' relationships with less sexually liberal peers is somewhat influenced by religiosity on the part of parents and of the adolescents. Religious adolescents are likely to associate with peers, who discourage or disapprove of liberal sexual behaviour, having such peers is connected with reduced SRB. The findings from Landor et al., (2010) also indicated that parents' commitments to religious and authoritative parenting are positively associated with adolescent religiosity. These findings agree with Smith et al., (2003) who reported that the adolescents' religious commitment is largely influenced by parents' religiosity. This is further consistent with Laden et al., (2011) who states that adolescents' spirituality and religious connection help young people keep away from risky sexual behaviour.

Moreover, Snider et al., (2004) ascertain that extremely religious parents are more likely to show valuable parenting practices, such as communication, closeness, support warmth, and monitoring compared to less religious parents. Although this was conducted among late adolescents using a self reported data. Thus, this finding may not be generalised to the early or middle adolescent. Also the impact of parent religiosity on parenting behaviours may vary in important ways for mothers and fathers. On the contrary, Zaleski and Schiaffino (2000) revealed that there is a lower rate of condom use among the religious adolescents compared to their less religious peers; hence, religion may act as an unintentional risk factor for unprotected sexual

behaviour. Although, the findings of Landor et al., (2010) did not agree with this, but reported that all risky sexual behaviour (such as early sexual debut, multiple sexual partners, and irregular use of condoms) is negatively associated with religious influence; this may be due to the different study population. Also, this perhaps means that the teaching of religious values might be a practical tool for imbibing the positive values of sexual intercourse and also discourage sexual intercourse outside marriage (Inyang and Inyang, 2013). Furthermore, Nigeria is an example of a religious nation where religious centres are found almost everywhere in both urban and rural settlements with the young people being the bulk of worshippers. Despite this, premarital sexual activities among this young group of people is on the increase, in spite of the evident pervasive religiosity in the country which prohibits premarital sexual activities (Mercy and Agokei, 2014). This situation however, reveals that there is some other underpinning discourse which might be influencing such behaviour. Together, these studies outline the implications (such as delayed sexual debut, reduced sexual risk behaviour) for developing interventions in religious contexts where adolescents are apt to make commitments that influence their sexual behaviour (Rew et al., 2011).

(h). Factors related to poverty and wealth.

Kirby and Lepore (2007) indicated that adolescents with paying jobs, particularly those who work over 20 hours per week, are liable to have sexual intercourse more often, as well as have multiple sexual partners. This may be partly due to the fact that paid work may boost the adolescents' sense of independence, their mobility, and thus, more chances for the freedom to engage in sexual activities. Similarly, some of them may even entice the opposite sex into engaging in transactional sex with money or material things such as a mobile phone or even food; as they earn an income.

(i). Ethnicity-related factors.

Ethnic groups are defined as a commune of the populace who share cultural and linguistic features, as well as history, tradition, myth, and origin (Somefun, 2015). Generally, there has been a reduction of disparity in adolescent behaviour by ethnicity. The word ethnicity is often used in an imperceptive approach as a substitute for socioeconomic factors. This may be because it reflects many influences as well as culture, discrimination, and socioeconomic status; however, its use as a substitute for socioeconomic status may lead to stigmatization on particular groups (Santelli et al.,

2000). Jatrana (2003) claims that ethnicity does not influence health outcomes of an individual, but rather they are determined by the socioeconomic characteristics of the ethnic groups an individual belongs to (Jatrana, 2003). Different ethnic combinations in a particular community may impact upon an adolescent's resolution to involve in either protective or risky sexual behaviour (Somefun, 2015). For example, adolescents who live in a community where unwanted pregnancy is accepted may not see a need to use contraceptive during sexual intercourse.

Santelli et al., (2000) further stated that there are variations by ethnicity on sexual initiation, use of contraception, or having multiple sexual partners, as ethnicity may impact sexual behaviour through cultural norms and their practices. For instance, the custom of levirate marriage, a situation, where a dead man's widow is enforced to be remarried to one of his brothers, is still in practice in several parts of sub-Saharan Africa, in spite of the enormous prevalence of HIV (Peterman, 2012). Another example, is in North-East states of Nigeria where the Fulani and Hausa reside, 70% of girls between ages 13 and 19 are married (Odimegwu, and Somefun, 2017). Most of these marriages are usually arranged marriages, a situation where the girls' parents wed their daughters to family, friends and business partners usually without her consent. Such marriages are mostly purposed to reinforce family relationships which afterwards foster political, economic, and social agreement (Odimegwu, and Somefun, 2017). Also, it is believed that shame would be cast on a family if the girl is not a virgin when she gets married. Similarly, deprived families may consider a young girl as an economic burden and her being married off in exchange for money or resources is seen as an indispensable survival tactic for the family (UNICEF, 2001).

Married adolescent girls are made to have sex more often, have increased unprotected sex. They usually have partners or husbands who have numerous coexisting sexual partners, consequently, putting themselves at enormous risk of contracting STIs including HIV and having pregnancy complications which in many cases results in mortality or morbidity such as VVF (Ilika, 2005). Furthermore, the power, prejudice amid husbands and wives make it complex for the young bride to instigate choices relating to prevention of HIV and STIs such as HIV counselling and testing, condom use or other contraception to prevent unintended pregnancy and abstinence (Ilika, 2005). However, while early marriage is prominent among the Hausa/ Fulani ethnic group in Nigeria, the girls from Yoruba and Igbo ethnic group tend to marry in the

third decade of life. This may be due to the cultural belief of these ethnic groups that a girl must be fully matured and should have acquired an educational qualification or skills before going into marriage.

The micro-systems level has been able to provide an overview of how some individual characteristics influence adolescent sexual behaviour either positively or negatively. Therefore these should be taken into consideration when developing an intervention regarding adolescent sexual development.

2. MESOSYSTEM (RELATIONSHIP LEVEL).

This level includes the direct interpersonal relationships that influence an adolescent's sexual behaviour. The features of each relationship play a fundamental role in influencing adolescents' risky behaviour and the possibility of contracting STIs (DiClemente et al., 2005). The different levels of family, peer and school are considered.

(a). Family factors.

Family factors are essential characteristics in predicting either protective or risky sexual behaviours (Kirby and Lepore, 2007). Family is a group of persons integrated by the ties of marriage, blood or adoption, forming a single household. These ties relate to each other through their individual social positions, typically those of spouses, parents, children, and siblings (Kirby and Lepore, 2007; Kirby, 2011). Family context also serves as a platform through which adolescents build up their religious beliefs and associated moral standards (DiClemente et al., 2005; Landor et al., 2010). Parents or caregivers are imperative agents of socialization, particularly during the child's early development (Li et al., 2000; Di-Clemente et al., 2005). Previous research on the parent-child relationship has highlighted a broad set of familial factors that influence either directly or indirectly, adolescent developments and behaviours (Miller, 2002; Bersamin et al., 2008). Some of these factors are; genetic influences, structural characteristics, parenting, attitudes, family management, parenting style and emotional relationships (Bersamin et al., 2008). Furthermore, Kayode and Olafoluso, (2016) mentioned that parents are the most noteworthy role models in the lives of their children. Therefore, the attitudes and behaviours children exhibit regarding sexual matters are largely based on what they observe and see in their parents or family members (Bruess and Haffner, 2000).

Bersamin et al., (2008) state that perceived parental attitude toward premarital sex or sexuality is a key determinant of adolescent sexual behaviour. Further, Li et al., (2000) and Di-Clemente et al., (2005) revealed that adolescents may be protected from engaging in several risky sexual behaviours through family support, parent-family connectedness, family structure and cohesiveness, parental monitoring and parent-adolescent communication about sexual activities (Li et al., 2000; DiClemente et al., 2005). Similarly, Li et al., (2000); Clawson et al., (2003) and Landor et al., (2010) found that most parenting practices such as parental warmth, concern, communication, monitoring, inductive reasoning, and regular discipline are crucial determinants of whether or not an adolescent will engage in risky sexual behaviour.

Parental influence and monitoring can also safeguard adolescents against the negative influence of peer norms (Whitaker and Miller, 2000). Kirby and Lepore (2007) report that an adolescent is more likely to engage in unprotected sex or become pregnant or impregnate their partners when family members, particularly parents, display values model or condone behaviour that supports sexual risk-taking or early childbearing. These behaviours can be exhibited by parents in various ways, such as displaying permissive attitudes towards premarital sex or sexual initiation or expressions of negative views about contraception. Likewise, adolescents whose older siblings model early sex initiation have multiple sexual partners and or have children outside marriage have higher opportunities to engage in early sexual activities (Kirby and Lepore, 2007). On the contrary, Kirby and Lepore (2007) affirm that parental displeasure of adolescents sexual activities lessen the probability that adolescents will engage in sexual intercourse; also, parental approval of contraceptive use enhances the likelihood that adolescents will use contraception during sexual intercourse. Early adolescent sex-discussions with parents or caregivers predict an older age at first sexual debut and fewer sexual partners in a lifetime (Li et al., 2000; Clawson and Reese-Weber, 2003). Clawson and Reese-Weber, (2003) identified that parent-adolescent sexual communication make a significant contribution to the adolescent's likelihood of involvement in sexual risk-taking behaviour, only when the timing of sexual discussion is made early, particularly during the early adolescence stage (10-13years).

In the same vein, Kirby and Lepore (2007) hypothesized that adolescents who live with both parents, have a close relationship and enjoy a rapport with their parents had fewer chances to engage in unprotected sex. They are also less likely to have sex or

have sex frequently and or become pregnant, particularly when they live with biological parents rather than only one parent or step-parents. On the contrary, adolescents with biological parents who have divorced or separated have a high probability to initiate sex at a very early age (Kirby and Lepore, 2007).

Sidze and Defo, (2013) point out that parents/guardians tend to communicate sexual matters more to young females during early adolescence than they did for the young male adolescents. Kumi-Kyereme et al., (2007) ascertain that the approaches parents/guardians assume towards adolescent sexuality vary in relation to their children's gender. For instance, female adolescents have a tendency to be monitored more closely compared to the male adolescents and the motive behind this approach is to caution the female adolescents to prevent unwanted pregnancy. Furthermore, Kirby and Lepore (2007) affirm that adolescents with educated parents were less likely to become pregnant compared to adolescents with less or uneducated parents. Adolescents in families with higher income rates were less likely to have an unintended pregnancy. Reasons attributed to this are that parents of higher income rate and high educational level will support their children with the resources required as well as encourage them to focus on achieving an education, pursue a career and hence there is less focus on early childbearing or any other risky behaviour. On the other hand, Abu and Akerele, (2006) also mentioned that, due to poverty levels, some parents subject their adolescent children, particularly the female adolescents to child labour by making them hawk in marketplaces, streets and motor parks. Through this, they expose these adolescents to sexual harassment or sexual coercion from the opposite sex. Thus, the socioeconomic status of parents may influence adolescent sexual behaviour.

Unfortunately, available evidence from sub-Saharan Africa highlights that parent-child communication about sex-related issues is rare and at times it is perceived as embarrassment, particularly communication with fathers (Karim et al., 2003; Kumi-Kyereme et al., 2007; Awusabo-Asare and Bankole, 2009; Oluwatoyin and Modupe, 2014). Olusanya et al., (2013) reported that many parents in Nigeria may not be in support of parent-child communication on sexual matters. This may be due to the fear and erroneous religious and traditional belief that discussing sexual matters with adolescents or young people will only enhance sexual practices and promiscuity. Interestingly, most parents tend to sometimes discuss sexuality matters freely with

their adolescents only when situations warrant it, particularly, when they hear reported incidences of death due to unsafe abortion or unintended pregnancy or when there is a problem (Olusanya et al., 2013). Oluwatoyin and Modupe, (2014) reveals that even when the parent/s shows interest in discussing sexual matters with their children, they still find it a hard and challenging topic. They feel it should be discussed by a third party, such as their grandparents, aunt, uncle and or teacher, who in most cases may also shy away from giving a proper information (Olusanya et al., 2013). This therefore depicts a dearth of parent-adolescent communication in developing countries, particularly in Nigeria; which is largely influenced by cultural and religious values. Amidst the dearth of information from the expected primary sources (parents), adolescents tend to look out for information from their peers, films, internet and mass media, which may be misleading (Olubayo-Fatiregun, 2012).

Family structure is another imperative determinant of adolescents' sexual behaviour. For instance, Olugbenga- Bello et al., (2009) in a study conducted to assess the sexual risk factors among in-school adolescents in the Southwestern part of Nigeria, found out that, there is a significant association between polygamy and the occurrence of sexual activities. That is overt sexual behaviour was more prominent among adolescents from a polygamous home than that of monogamous families. This may expose the adolescent to multiple sexual partnering. Similarly, parental communication style and parent-child relationship can be a protective factor for adolescent sexual behaviour.

Kirby and Lepore (2007) claim that adolescents are less likely to initiate sex or have sex frequently when they are given maximum parental support and when they have a sense of connectedness to their parents. Also, adolescents are less likely to have multiple sexual partners when parents monitor and supervise them correctly. However, if adolescents have been excessively maltreated or abused physically by parents, there is a greater risk that they may have sex at an early age or even become pregnant (Kirby and Lepore 2007). Rohleder et al., (2009) opined that an increased communication between adolescents and their parents delays the age of sexual initiation and encourages the use of condoms when they eventually initiate sex. Collectively, these studies outlined the critical role of parents/guardians in the prevention of risky sexual experimentation. They are the primary socializing agents who have an important influence on their children. Therefore the need to train parents/

guardians in child care and sexual health has extreme importance for risk behaviour reduction.

(b). Peers/friends.

During adolescence, peer group influence become increasingly imperative (Landor et al., 2010). Peers and friends are a major group of people that influence sexual behaviour in various ways, either positively or negatively (Kirby and Lepore 2007). Adolescents are more liable to have sexual intercourse when or if their peers or friends are older, take drugs or alcohol or involve in other risky negative behaviours. In the same way, adolescents have more chances to engage in sexual intercourse when they think their friends have strong positive attitudes toward childbearing, have tolerant values about sexual activities, or appear sexually active, even though they are not (Kirby and Lepore, 2007). Similarly, adolescents who have friends or peers that support condom use or in reality use condoms, have high chances of condom use (Kirby and Lepore 2007). Landor et al., (2010) found that peers usually guide and shape adolescent risky activities, that is, peers initiate a sense of normative behaviour in which risky sexual experimentation may be accepted or rejected by peers, which becomes a norm for the peer group. This is consistent with the findings of Osaikhuwumwan and Osemwenkha, (2013) who explored the attitude and perception of adolescents towards adolescent pregnancy in Nigeria. They found that 70% of the participants attributed peer pressure to have sex as one of the major causes of adolescent pregnancy. Holder et al. (2000) also points out that adolescents who have a strong relationship with spiritual peer groups engage in less sexual activity. This depicts the significance of peer influence on adolescent sexual behaviour.

Landor et al., (2010) identified that adolescents' religious beliefs influence their peer group connection. This concurs with Ugoji's (2013) work that suggests that adolescents' participation in a religious institution would boost the likelihood of making friends with peers who have a moral and religious standard against premarital sex. This is because adolescents who are active in religious activities tend to meet with adults who might probably influence them to delay sexual initiation.

Bingenheimer et al., (2015) asserted that the magnitude and the makeup of adolescents' peer network influences their participation in sexual activities. Interestingly, there was no association between initiation of sexual activity and having

opposite-sex friends. Additionally, Bingenheimer et al., (2015) found that a large number of friends are associated with multiple partners, which affirms that a peer network is a primary source of potential partners. (Although the numbers of friends were not mentioned) This may be due to the reason that adolescents with more friends may meet more prospective partners, which in turn may pave the way for more opportunities to form sexual relationships. In the same vein, Mmbaga et al., (2012) found that peer influence and level of communication is a key predictor of early sexual debut. The thought of acquiring the reverence of friends, approval and inquisitiveness of doing what other adolescents are doing can prejudice an adolescent's good opinion and stimulate risk-taking behaviours. These findings are supported by Rew et al., (2011) who highlighted that adolescent frequent exposure to religion-oriented groups as well as to peer groups who embrace same traditional views, may act to dissuade risky behaviour. Prinstein et al., (2011) revealed that even though perceived peer norms are evidently imperative to peer influence processes, not all adolescents are evenly disposed to peer influence, some adolescents remark on the risky behaviour of their peers, but nevertheless remain resilient to peer pressure; while others are increasingly susceptible to conformity demands.

Unfortunately, various studies on adolescent sexual behaviour have only assessed a direct association between norms and behaviour, with no consideration of individual differences in vulnerability to those norms. Vital individual differences may be through gender, ethnicity, pubertal development and the sexual outcome anticipation (Widman et al., 2016). For instance, Widman et al., (2016) found that there is a gender difference in compliance to pressure for sexual activity, identifying girls to be more highly resistant to peer influence than boys. This finding is supported by Ellis et al., (2012) who, using the gender socialization theories, highlighted that boys frequently receive messages connecting sexual behaviour to high social status while girls get more complicated messages of being seen as sexual objects. However, they are taught that explicit sexual behaviour may result in reduced social status (Tolman, 2013; Widman et al., 2016). This may perhaps lead girls into minimizing or hiding their sexual experiences to evade the view of promiscuity, even though they are sexually active (Tolman, 2013).

Widman et al., (2016) identified that amongst boys, late puberty development is connected with greater vulnerability to sexual activities. This connection may be

attributed to the perception that sexual behaviour will be attracting social rewards such as respect and recognition among their peers. Mendle and Ferrero, (2012) also revealed that boys with late puberty development and who may not have as much opportunity to engage in sexual behaviour as their peers who reached puberty earlier, could be particularly motivated to affirm their aspiration for sexual behaviour, to demonstrate their manliness. Similarly, Widman et al., (2016) found that both adolescents' boys and girls who had high expectation of sexual outcome, that is, those who anticipate increased positive social rewards for sexual behaviour displayed a greater susceptibility to peer influence. These findings corroborates with the work of Brechwald and Prinstein, (2011) who revealed that adolescents who think sexual behaviour will attract great rewards, such as increased social status, have a higher likelihood to engage in sexual activity. Widman et al., (2016) acknowledged that these supposed social rewards may also raise the vulnerability of adolescents in acceding to risky sexual norms.

Connolly et al., (2000) highlight that an adolescent who is more engaged in peer relationships may be predisposed by a social setting that promotes romantic dating relationships. Marin et al., (2006) also indicate that adolescents who started dating relationships at a very early age and adolescents who had a dating partner older than them reported an onset of sexual activity earlier than their peers who had not been so amorously involved. This view is supported by Kirby and Lopore (2007) who claim that merely having a romantic partner elevates the likelihood of sexual activities, in the same vein, having an older sexual romantic partner, further increases the probability. With an older partner, the chances that contraception will be used during sexual intercourse is lower, thus increasing the likelihood of having an unintended pregnancy and contracting STIs. However, adolescents are likely to use contraception of condoms, if or when the adolescent's partner supports the use. Sieving et al., (2006) confirmed that the norms for early sexual behaviour among groups of peers or friends influence the timing of adolescent sexual initiation, which is connected to first sexual intercourse during middle adolescence (14-16years). conversely, despite peers having been identified as a major influence to initiate sexual activities, peer normative behaviour can equally delay sexual behaviour, that is, when peer norms entails abstinence from sexual activities, such relationship becomes a protective factor for early sexual debut rather than a risk factor (Santelli et al., 2004).

Similarly, Brucker and Bearman (2005) reveal that peers who took part in a virginity vow as a norm, experience first sexual intercourse later than the peers who did not vow. Considering available evidence, it would appear that peers can influence adolescent sexual behaviour both negatively and positively. There is a need therefore for interventions to address perception of frequent sexual behaviours among peers. Success of such interventions will depend on the dispersal of unhelpful wrong notion that sexual activities bring social rewards among adolescents. There is clearly a need to strengthen school peer education programmes in order to build a culture of positive peer influence.

Exploration of the mesosystem level has provided an explanation of how relationship characteristics can influence adolescent sexual behaviour either positively and negatively. This has demonstrated the need to promote the positive elements of relationship characteristics towards sexual behaviour and address the negative aspects with appropriate interventions.

(3). EXOSYSTEM (COMMUNITY LEVEL).

Mass media, community/ neighbourhood and school are the key component discussed in this section.

(a). Mass media-related factors.

Mass media can be defined as those media that are intended to be used, accessed and watched by large audiences or a population of both young and old by means of technology agencies (Asekun-Olarinmoye et al., 2014). However, the conventional mass media (such as television, movies, music, and the Internet) and the unconventional mass media such as (magazine, books and newspapers) sometimes portray sexual activities to be the harmless fun, solution to everything with no risk of STIs (Brown, 2002). The Internet may have either a positive or negative impact on sexual health depending on what is being viewed (Ladipo and Adeduntan, 2012). Okonofua (2014) highlights that the latest developments in the old and new media technologies, has in a way given adolescents worldwide a ready access to all kinds of information regarding sexual and reproductive health information. Some of the available sources could be radio, TV, social networking sites, internets, cell phones, online video games and MP3 players. The influences of Media on sexual behaviour was first reported in 1981 in the sex education newsletter (Asekun-Olarinmoye et al.,

2014; Corder-Bolz, 1981) and ever since then various studies have accessed adolescent use of media and the possible impact on their sexual behavior (Gruber and Grube 2000; Strasburger and Wilson 2002; Brown et al., 2005; L'Engle et al., 2006; Ladipo and Adeduntan, 2012; Asekun-Olarinmoye et al., 2014).

Ladipo and Adeduntan, (2012), maintain that media materials are more accessible ways for young people particularly to discover and see sexual behaviour. Media resources may be essential for young people as they create their own sexual norms and models of behaviour where parent/guardian or school remains indisposed to talk about related topics on sexuality. The internet mostly contains sexually overt material which could either influence an adolescent negatively or positively depending on how it is being used. This same internet material also offers an opportunity to increase an evidence-based sexuality education to young people which can offset the negative information acquired from peers or other non-evidence based sources of information (Okonofua, 2014). Braun-Courville and Rojas, (2009) ascertain that content of sexual media influences attitudes and beliefs, advantageous to early sexual debut with increased permissive sexual norms, more optimistic opportunities regarding sex and greater self-efficacy as regards to safe sex. Undoubtedly, any age group can be affected by sexual content in the media, however, adolescents are more particularly vulnerable (Gruber and Grube 2000). This group of adolescents may perhaps be significantly at risk because the cognitive skills that permit them to decisively interpret messages or information from the media in order to positively decide on the likely future effects, are not yet developed fully (Gruber and Grube 2000). Ladipo and Adeduntan, (2012) state that among young people, media resources have been found to show evidence of significant influence on their sexual and reproductive health practices. The increasing prevalence of sexual behaviour and sexual talk through telecast media, as well as the connection between adolescent reading and viewing forms and their involvements in sexual activities, has been documented by recent researchers (Gruber and Grube, 2000; Ladipo and Adeduntan 2012).

In the same vein, there is an increasing concern as regards young people's exposure to sexual content through mediums (such as books, magazines, Journals, slides, television, media and other electronic devices) and their likely impact on their attitudes, beliefs and behaviour sexually (Ladipo and Adeduntan, 2012). L'Engle et al., (2006) discovered that adolescents who in their media diets are exposed to more

sexual content support for sexual behaviour, report increased sexual activity and a high intent to engage in sexual intercourse. L'Engle et al., (2006) further highlighted that the significant association between adolescents' sexual expression and media may be attributed to the media's role being seen as an essential source of sexual socialization for adolescents. Similarly, adolescence is a developmental stage of life that is categorized as an intense information seeking period, particularly regarding adult role. In most cases, sexuality information is not readily available to adolescents, hence, they may resort to the media for information regarding sexual norms (Gruber and Grube, 2000; L'Engle et al., 2006). Adolescents referred to the media such as internet, television, movies, and magazines as a major source of sexual information, alongside peers, parents and school health classes (L'Engle et al., 2006). Although media use pattern varies significantly by age, gender, race/ethnicity, and socioeconomic level (Facente, 2001). For example, generally most girls and women prefer softer music, and relationship-based television programmes, movies, love storybooks and magazines, while boys and men, on the other hand, prefer action and activity-based media such as sports programmes, heavier rock, rap music, action and adventure movies and sports magazines (Ladipo and Adeduntan, 2012).

Brown et al., (2005) and Strasburger and Wilson (2002) hypothesized that the media may be a kind of sexual "super peer" for adolescents in quest of information about sexuality. This is because the sexuality messages in the media are readily available and easily accessible and sexual information is presented by common and eye-catching representations. Furthermore, it is likely that adolescents who mature earlier than their age-mates or peers turn to the media as a readily available source of information on models of sexuality (Brown, et al., 2005).

Pardun et al., (2005) claim that most of the sexual content of the media shows risk-free, frivolous sexual behaviour amongst unmarried people and uncommonly shows negative penalties from sexual behaviour. The portrayal of the use of condom and contraception are enormously rare. It has also been highlighted that adolescents acknowledge sexual information from the mass media and peers as being quite different from what they are taught from other agents of sexual socialization such as parents, schools and religion (L'Engle et al., 2006). Pardun et al., (2005) ascertained that adolescents reside in a sexual media world, and the chances of adolescents becoming more sexually active may depend on the amount of sexual media content an

adolescent sees. This may suggest that individuals' sexual media consumption is considerably associated with sexual experiences and the desire to be sexually active. L'Engle et al., (2006) affirm that adolescents who utilize media are more likely to assume behaviours represented by characters that are presented as attractive and pragmatic, who are in most cases rewarded for their behaviour and actions. Hence, messages regarding sexuality in the media may be in particular compelling to adolescents. Evidence suggests that sexual indications on television and movies may be an important contributor to early sexual initiation, multiple sexual partners, unintended pregnancy and negative attitudes toward sex (Brown, 2006).

Chandra et al., (2008) in a longitudinal study hypothesized that adolescents exposed to a high sexual television diet were two times more likely to get pregnant in the next three years, compared with adolescents with lower levels of exposure. This supports the findings of Asekun-Olarinmoye et al., (2014) who identified a significant association between time spent watching television and regularity of internet use and being sexually active. For instance, according to the 2009 national survey in Nigeria, one-third of young people between 12 to 17 years old have a television in their own bedroom with cables and video players, such access gives them opportunities to view any channel they wish to, without parental guardians (Ladipo and Adeduntan, 2012). Similarly, Peterson et al., (1991) reported a relationship between the period of television viewing and early sexual initiation among adolescents. Conversely, Collins et al., (2004) reported no association between sexual behaviour and hours of TV viewing. It may be that respondents in this research chose to view channels that positively added value. There are diverse channels with various programme choices of interest. Although, the researcher later ascertained a relationship was found between exposure to TV sex and later sexual behaviour..

Furthermore, Strasburger and Wilson (2002) claim that television usually fails to accentuate the benefits of contraception and condom use as well as the potential health risks coupled with sexual activity, such as STIs and pregnancy. The internet, as an educational means gives adolescents free opportunity to an extensive variety of sexual content and some of the material may include sexual anatomy, prevention of pregnancy, and or transmission of infections; nevertheless it may also involve sexually overt material with pornography, violence against partners, sexual abuse, and or women as sexual objects (Braun-Courville and Rojas, 2009). Asekun-Olarinmoye et

al., (2014) report a noteworthy association between being sexually active and the regularity of internet use and access to sexually overt materials on the Internet, and that adolescents who exploit the internet or viewed sexually overt materials had high chances of being sexually active. This is consistent with the findings of Brown et al., (2006) who in their longitudinal study discovered that the numbers of adolescents who consumed sexual-media content greatly in their early adolescence were more much more likely to initiate sexual intercourse before they become 16 years old. This is one of the major concerns as access to mass media/the internet is increasing, particularly with the initiation of portable electronic devices such as mobile phones and laptops with services for accessing the internet and seeing movies (Asekun-Olarinmoye et al., 2014).

Findings also suggest that pornography on the internet is readily available and accessible to adolescents, with over 50% of adolescents visiting a sexually overt site during their lifetime. Notably, adolescent males were identified to be more likely to visit internet pornography sites (Goodson et al., 2001; Carroll et al., 2008;). Braun-Courville and Rojas, (2009) too hypothesized that adolescents who often visit sexually overt websites have higher chances to engage in high-risk sexual behaviours such as having multiple partners, anal sex and substance use. Furthermore, Braun-Courville and Rojas, (2009) highlighted that adolescents who visit these websites frequently have more likelihood to exhibit sexually permissive attitudes and approval of casual sex. These sexually permissive attitudes differ however depending on the extent of exposure. That is, adolescents with increased constant exposure to pornography on the internet have more permissive attitudes sexually. Collins et al., (2004) hypothesized that sexual content in films, music, and magazines has the likelihood to accelerate sexual advancement. Likewise, previous longitudinal studies have also reported that exposure to sexual content in films, video games, magazines, music and TV programme foresees early timing of sexual activity (Brown and L'Engle, 2009, Brown et al., 2006, Collins et al., 2004). Despite the fact that most young people considered the internet as a source of sexuality overt resources influencing their sexual behaviour, it is still considered as one of their sources of information and entertainment (Asekun-Olarinmoye et al., 2014). Ashby et al., (2006) suggest that parental restriction on media content may provide a protective effect for risky sexual behaviour. Parkes et al., (2013) reported that adolescents who more often watch Television/DVDs with friends than with parents were more likely to report sexual intercourse. While co-viewing of

Television/DVDs with friends of the same-sex was connected with lower risk for sexual intercourse, co-viewing with friends of mixed-sex was predominantly a strong risk factor for sexual behaviour. This supports the statements of O'Hara et al., (2012) where forming unsafe friendships, having a boy/girlfriend and in company of mixed-sex friends may arbitrate associations between exposure to sexual film content and sexual activities, given that, exposure to such content has the likelihood to amplify sensation-seeking. Parkes et al., (2013) also found that adolescents who reported restrictions by parents on media sexual content were less expected to report intercourse than their peers. In view of all that has been discussed the provision of important resource information on sexual and reproductive health and family life through media centres and libraries is essential such provision would help to enhance responsible sexual behaviour among adolescents. Accessibility to sexual health information and services offers a vital alternative for adolescents that are sexually active on how to avoid unintended pregnancy and STIs including HIV.

(b). Community/neighbour-hood related factors.

The place of residence is a key determinant of adolescent sexual health and reproductive health (Okonfua, 2014). The communities where young people reside also have a significant impact on their development, either for good or ill (Institute of Medicine (IOM) and National Research Council (NRC) (2011). Notably, the words “community” and “neighbourhood” are often used interchangeably. The neighbourhood is an important aspect of adolescent life as it is the place where a broad group of peers and other social connections take place and where they have access to institutional resources (IOM and NRC, 2011). The structural features of a neighbourhood, as well as its economic status, housing quality, and accessibility to resources are significant social developments that happen in the neighbourhood. These must be viewed together with the connections linking community features and other influences, such as peers, family, and schools (Gorman-Smith, and Reardon, 2008). Findings from a nationally representative survey of adolescents, showed that neighbourhood framework may be either positively or negatively linked with sexual initiation, depending on the gender (Cubbin et al., 2005). For instance, girls from the rural community are less likely to reach menarche at an early age and commence premarital sex in contrast to girls in urban residences, as a result of biological, cultural and social pressures. Also, rural girls are more likely to suffer reproductive health

consequences of early sexual debut compared to girls in urban areas due to their lack of access to information and services (Okonofua, 2014).

In most cases, it is usually thought that a community's approval of family planning and condom use will promote young person's to initiate sex earlier. However, this contradicts the finding of Aga et al., (2006) who found that societal support for family planning and condom use promotes accurate knowledge and awareness on the spread and prevention of HIV/AIDS. Therefore, openness to accepting this information, may promote adolescents to delay sexual initiation. This may be due to the fact that the study was carried out in a developing country where there is community support and increased health promotion. Also, it is possible that young people in pro-reproductive health communities may be more capable to resisting peer pressure, which is usually one of the key determinants of early sexual initiation. Similarly, Billy et al., (1994) ascertain that the sexual behaviour of young people is significantly influenced through the structure of the community's opportunity. That is, the presence of both social and economic opportunities, which further, comprises of three important basics. The first is the availability of community reproductive and sexual health services; these determined a young person's access to information and services. The second aspect is the community's demographic profile; this determines the existence of potential sexual partners. The third and final aspect is the presence or absence of economic or social opportunities. These in a way influence young people's acuity regarding the opportunity costs of sexual behaviour. Aga, Van Rossem and Ankomah, (2006) also suggest that young females living in communities where there is low awareness of reproductive health risks may be more prone to the risk of early sexual initiation. Brewster et al., (1993) maintain that the community economic situation may influence behaviour through its bond to both supposed chances for accomplishment and the normative models of behaviour that adolescents see in adults around them. For instance, young females living in wealthy communities may detect more prospects for increasing human investment such as educational and employment chances, which gives the inspiration for the aversion of early sexual debut. However, the disparity in sexual initiation among urban and rural communities may be due to that fact that urban communities offer a more positive reproductive health environment as well as increased social support influencing more choices which are not available in rural residence (Aga, et al., 2006).

In addition, Stephenson et al., (2014) confirm that there is an association between the community levels of wealth, community marital practices and early initiation of sexual activities. A high community level of wealth was identified to be a protective factor for an early sexual debut. This finding concurs with Billy et al., (1994) who hypothesise that young people who are able to recognize lanes to future success are likely to make a less risky sexual choice for the reason that the penalty is greater. In the same vein, Stephenson et al., (2014) state that in the community, higher levels of participation in social groups are protective factors for early age sexual initiation, suggesting that communities that have a high level of adolescents' participation in social groups may be helpful in delaying sexual initiation. Social norms that hold up adolescents as important members of their community or offer different social activities for adolescents contribute to the delay. Likewise, having friends of the same sex may offer adolescents with support systems that promote delayed sexual initiation or provide opportunities for social interactions that do not involve sexual behaviour (Stephenson et al., 2014). Stephenson, (2009) claims that having a job and residing in a community that has a great proportion of men in a job were protective factors against sexual risk behaviour among young men. The larger economic prospect for men in such communities consequently improved access to services and information. Correspondingly, Stephenson et al., (2014) maintain that being employed may possibly also amplify the economic influence of a young person, probably permitting him or her to discuss or sustain transactional sexual relationships. In other words, working outside the home may likely reduce the times to socialize, which in the long run, decrease adolescents' opportunities to engage in sex early.

However, amongst young women, having a job and residing in a community in which a great proportion of women were working are in most instances connected with an increased rate of risky sexual behaviours being reported (Stephenson, et al., 2014). Being employed may seem to take young women out from their traditional roles in the family and offers them with more opportunities to get together with potential sexual partners. Moreover, in cultures where a woman's work is mostly constrained to their home, any woman in the hunt for employment outside of the home due to economic desperation may be exposed to SRB; consequently, SRB amongst employed women may reveal an amalgamation of increased social mixing and economic incentive to take on such behaviours (Stephenson et al., 2014).

Furthermore, high community levels of education have been found to be linked with reduced probability of reporting SRB. Residing in a settlement with a high level of educational attainment may offer some kind of influence on the decision of adolescents regarding SRB; also young adolescents residing in such communities may have added chances to examine various patterns of behaviour. This may reveal apparent pathways for future mobility (Stephenson, 2009). Such mobility is consistent with the findings of the IOM and NRC, (2011) that affirm that residing in an affluent community where the inhabitants are educated professionals is closely related to adolescents' academic attainment. This was reported to be more apparent in boys than in girls. The role of socioeconomic factors is given further consideration below. At this point it is sufficient to note that living in economically deprived areas may leave adolescents open to a range of behavioural, social and emotional challenges. These may in turns effect their sexual health.

Stephenson, (2009) further found out that living in a community where a woman's mean marriage age is high was related to higher chances of reporting SRB among young men. Reasons may be attributed to the fact that there may be an increased number of single young women, which gives an opportunity for sexual partnering and having multiple sexual partners. Kirby and Lepore (2007) also confirm that the community in which adolescents reside influences their sexual behaviour. Adolescents who live in harsh communities, that is, communities where there is high prevalence rate of substance abuse, violence, increased crime rate, poverty, are more likely to engage in sexual intercourse early and to become pregnant. Baumer and South (2001) found that the frequency, at which adolescents engage in sexual intercourse, have multiple sexual partners and have unprotected sex, increases in relation to the level of the socio-economic complexity of the community in which they reside.

In Nigeria, it is acknowledged that abstinence and regular use of condoms guards against STIs/ HIV/AIDS. Condoms are generally obtainable at no or low cost for young people from various Non-Governmental Organizations (NGOs) vents. However, evidence shows that young people living in the urban slum neighbourhoods do not utilize these; services which is another barrier to adopting safe sexual practices (Nwoji, 2011). For instance, in Nigeria, slum neighbourhoods are intimately knit, and the model of social organization principally reflects those established in traditional societies (Adedimeji et al., 2007). This cohesive knitted structure is shown in housing

patterns which are organized along family compounds. The families are usually expected to control social and sexual behaviours of its members, especially the females (Nwoji, 2011). When, both male and female adolescents fail to use or suggest condoms or other contraception this may depict a lack of trust for their sexual partner or show that they are trying to protect their self-image in their own community.

(c). School factors.

School is usually the prime and most imperative institution through which young people are involved; it is a principal framework for their development (IOM and NRC, 2011). Schools comprises of broad structural features that differ in diverse ways, these may include, the socioeconomic status of the populace they serve, the numbers of teachers to students, school size and classroom size, student and teacher mobility; all of these settings and networks may perhaps have distinctive features and varying behavioural norms that influence adolescents (IOM and NRC, 2011). Enrolment in school has been highlighted as one of the protective factors against adolescent sexuality and its adverse outcome. For instance, Mason-Jones et al., (2012) in their study highlighted the role of schools in enhancing young people's use of reproductive health services by relating education and services together in order for students to bridge knowledge and attitude with action. Not only that, schools can make an effort to improve student access to services within the school and also a referral to external health centres. Dotata and Ross (2010) in their study also affirmed most that HIV and sexuality education programmes are delivered in schools, unfortunately therefore out of school children are in most cases unreachable by these programmes.

In addition, Blum and Ireland (2004) opined that connectedness to school and liking school was a protective factor against having early sexual intercourse. This corroborates the findings of Cherie and Yemane (2012) that adolescents who felt connected to schools are less likely to be involved in risky sexual behaviour, while poor connectedness to school was notably connected with risky sexual behaviour (Kirby et al., 2001). This reality is supported by Kirby and Lepore (2007) who ascertain that when an adolescent stays in school, obtains good grades, does not lag behind peer and has plans to go on to higher education, he or she is likely to stay away from problems and is less likely to initiate sex earlier or become pregnant. Similarly, adolescent involvement in school organizations is associated with less sexual risk-taking (Kirby and Lepore, 2007). Conversely, Kirby et al (2001) hypothesized that in-

school adolescents with a high level of poverty and social disorganization have higher chances of pregnancy. Reasons attributed may be that such adolescents outside school may perhaps engage in sexual coercion to attain and maintain friendship, thus leading to multiple sexual partners, unprotected sex or casual sex. Kirby (2002) further mentioned that schools structure and students' period in school, reduce the amount of time that adolescents might have alone to engage in sex. School also enhances interaction with adults who may disapprove of risk-taking behaviour of any kind, such as sexual risk-taking. Schools influence the selection of friends and group of peers they wish to belong to. Peer norms regarding sex and contraception considerably influence adolescent behaviour. Also, in some settings in a developing country, sexual activities may incite negative reactions from teachers which negatively impact on school performance and may result in school dropouts (Biddlecom et al., 2008).

Being enrolled in school for female adolescents reduces the chances of their being married early, in African regions where such cultural practices are ubiquitous (Okonofua, 2014). Formal education also enables boys and girls to manage their sexuality through the information they are given in school (Okonofua, 2014). Therefore, interventions and programmes that strengthen positive social relationships in school are needed together with those that offer nurturing and caring social settings (Cherie, and Yemane, 2012). Notably, most school policy does not favour pregnant adolescents. Pregnant girls therefore may find themselves excluded from school. One of the major reasons female adolescents drop out of school may be as a result of unwanted pregnancy (Lloyd and Mensch, 2008). On the contrary, Akanle, (2011) in a study conducted among adolescent girls in Yoruba land of Nigeria, it was found that the main perpetrators of sexual coercion among young female adolescents are their teachers and the adult in their life. For instance, a key finding revealed that approximately 40% of the sexual coercion comes from teachers. Thus, the school may not be a safe place with regard to sexual activities, especially, amongst female adolescents. This finding agrees with an African Right Report by Omaar and De Waal (1994) that highlighted an aiding and perpetrating role of the teacher in sexual coercion amongst students. This is further consistent with the 1998 South Africa Demographic Health Survey where it was found that adolescent girls before the age of 15 years were persuaded to have sex against their wishes and their school teachers were responsible for 33% of reported cases (Jewkes et al., 2002). Sexual coercion from teachers may be a result of the unequal power relationship between them and

their students or reflect a struggle between them and their students (Jewkes and Abrahams, 2002). For some students, sex is exchanged for good grades. This, however, may suggest the reason for the high rate of sexual coercion among teachers and their students (Jewkes and Abrahams, 2002).

The exosystem level has been able to give an explanation of how some societal characteristics influence adolescent sexual behaviour both positively and negatively. These realities further support the need to promote the positive elements of societal influence on adolescent sexual behaviour and to tackle negative aspects with appropriate intervention.

4. MACROSYSTEM (SOCIETAL LEVEL).

Culture and norms, socioeconomic factors, legal and policy issues are the macrosystem elements considered here.

(a). Cultural factors.

Traditional belief and practices contribute directly or indirectly to the increased burden of adverse reproductive health outcomes of adolescents in sub-Saharan Africa. Culture has to do with the lived-in practice of a population; Africa is a continent in which there are many varied and diverse cultures. Also, in Africa culture has shown to exact a significant impact on reproduction and its correlated practices. Africa's various cultures and religious often place a moral value for the sanctity of sex and among young people and may demand total abstinence from any sexual experiences before marriage (Okonofua, 2014). However, this dogma is mostly imposed on the girls while the same cultural belief remains silent for the boys, due to the patriarchal characteristics (Okonofua, 2014). The cultural belief around female sexuality denies access to relevant information, thus it becomes a subject of negative discourse. Furthermore, traditionally in some cultures, adolescents sleep in a separate house in order to give their parents privacy for intimacy. This sleeping arrangement plays a key function in the socialization of adolescents on sexuality and moral values by grandparents and older relatives (Juma et al., 2014). The cultural norm influence will vary as a result of globalization and education, particularly in cities or places where young people are more likely to discard traditions due to the diversity of the populace (Oyediran et al., 2011). Further, Oyediran et al., (2011) ascertain that the use of condoms and age at sexual debut among young people in Nigeria are as a result of

diverse socio-cultural factors, together with religion, level of exposure to formal education and urban-rural residence among others. Notably, culture is a factor in sexual behaviour and also an active significant factor in the accessibility of abortion services (Positive Action for Treatment Access (PATA), 2015). This is because, in Nigeria, many adolescent pregnancies occur outside wedlock, are unwanted, and are often terminated. Thus, adolescent abortions in Nigeria account for 55% of all abortions. These are usually carried out by untrained providers (Fatusi and Blum, 2009). It is strongly acknowledged that adolescence is not a homogenous experience. It is influenced by the societal framework, gender roles or potential and the cultural setting which varies from place to place (Fatusi and Hindin, 2010). Therefore, adolescents sexual and reproductive health needs are often influenced by societal and cultural norms. Although these influences are not directly clear, the interactions are multifaceted, and what seems to work in one cultural setting may not necessarily be applicable in another (PATA, 2015). Similarly, information collected on adolescent sexual behaviour in one culture must not be depended upon when building interventions in another culture. Programmes aimed to address and change adolescents' sexual behaviour must be evidence-based with data collected from the local cultural environment (PATA, 2015).

Furthermore, traditional norms have been identified to condone sexual coercion among female adolescents, especially where they may have received financial support from family. If women report such behaviours, they are more likely to be blamed by the society. Thus female victims, lack choice and in order to avoid serious physical, psychological and social penalties will not refuse the sexual advances (Akanle, 2011). Akanle (2011) reported a high prevalence of sexual coercion among children and adolescents. In some cultures, using all one's resources to secure favour is acceptable behaviour. A female learns to use her body in exchange for work or food. The situation is further worsened by the nation's economic crisis. Girls are more vulnerable to sexual coercion and less able to resist sexual pressure from older rich men who offer them money or gifts in exchange for sex. Access to emergency contraception for adolescents becomes an important policy component. Although, a traditional society like Nigeria does not encourage artificial contraception, particularly for adolescents. However, this is essential for the reduction of unwanted pregnancy, STIs and unsafe abortion among adolescents.

(b). Socioeconomic factors.

Socioeconomic status (SES), reflects an economic and sociological collective evaluation of a person's work experience and of an individual's or family's economic and social position in comparison to others, based on income, education, and occupation (Santelli et al., 2000). SES impacts on health by discriminating opportunities socially, economically and educationally (Santelli et al., 2000). Previous evidence has shown a connection between SES and adolescent sexual behaviour. For instance, Oyediran et al., (2011) found that sexual activity and use of condoms are functions of household socioeconomic status in a study conducted among young unmarried males in Nigeria. They further report that, in comparison to rural dwellers, participants who lived in an urban setting were more sexually knowledgeable and more likely to use a condom at the first sexual contact. This may perhaps be because participants who lived in urban settings had easy access to information and contraceptives.

In the same vein, Oyediran et al., (2011) revealed that young never-married males, who were at huge risk of detrimental reproductive health practices tended to be from families of low economic status, that is, those who lived in rural settlements, and those who resided in the non-urban areas during their early lives. Reasons may be that young never-married males from these backgrounds could have been deprived of sex education, consequently making them uninformed of what is required of them to protect themselves. More-so, parents, family, and community members adhere to social and traditional norms which should be followed severely; unfortunately, socio-cultural norms become threatened with increasing poverty levels and poorer education, which increases exposure to risky practices (Adedimeji et al., 2007).

SES deprivation significantly influences the capacity to negotiate or approve protective practices, particularly among young females whose sexual partners are usually older, richer and more influential. They may be less capable when discussing safe sex due to the fear of losing the economic remuneration from such dealings (Adedimeji et al., 2007). For the boys, the evidence of increased participation in transactional sex with older women also elevates issues concerning their capability to evade risky sexual practices. Risky sex behaviours may well occur for economic reasons due to impoverishment (Adedimeji et al., 2007). Inequality in socioeconomic status may perhaps make it very hard for adolescents to negotiate safe sex, thus

escalating their susceptibility to STIs and HIV (Nwoji, 2011). Corroboration comes from Cortez et al., (2016) who ascertain that poor economic situations generate opportunity for sexual abuse of the financially helpless in Nigeria, especially young girls from low-income groups. For instance, they may substitute sexual favours for material things or money putting them at huge risk of unwanted pregnancies and STIs. More-so, an anthropologist investigating the global AIDS pandemic has noted the effect of poverty and inequality as basic structural elements of who is at risk (Ayankogbe et al., 2011). In the same vein, Folayan et al., (2014) reported that as a result of the high poverty levels, the attraction for young female adolescents to engage in sexual intercourse with older men (sugar daddies) who can provide for the financial needs of young girls is becoming 'conventionalized'. For instance, about 21% of young women age 15–17 years in Nigeria have reported having sex with men who were at least 10 years older (Feldman-Jacobs, and Worley, 2008). There is also an increasing drive for older men to have sex with younger girls in an attempt to avert HIV infection owed to the fallacious beliefs that younger girls are expected to be free of HIV infection (Folayan et al., 2014). Okpani & Okpani, (2000) also mentioned that, adolescent girls engage in a low level of prostitution, in order to use money obtained from their sexual activities to augment what their poor parents can afford to give them. Those girls that are already overburdened by their large family size, (a normal characteristic of many Nigeria families) are particularly at risk.

Furthermore, Oyediran et al., (2011) mentioned that condom-use during the first sexual coitus was linked to with advanced levels of education, enhanced opportunity to use mass media such as newspapers, television, and radio and greater socioeconomic status. Udigwe et al., (2014) reported that adolescents who live with both parents and those who lived in deprived economic circumstances demonstrated a huge predisposition to become involved in early sexual practices. This is consistent to the findings from research carried out in Ibadan, Nigeria, which showed that poverty, deprivation; parents working long hours during the day are likely to drive adolescents, particularly the out-of-school adolescents into sexual relationships such as transactional sex (Amoran et al., 2005). Amoran et al., (2005) further mentioned that adolescents from underprivileged homes are apt to be street children, hawkers and have more likelihood to reside in a neighbourhood that will have negative impacts. The out-school adolescents are usually seen in such situations and thus are increasingly susceptible to early sexual experiences compared to the in-school

adolescents. Similarly, Santelli et al., (2000) found that the educational attainment of adolescents, their parents and family members' perception was a significant factor influencing the likelihood of ever having sexual intercourse. Boričić et al., (2015) also highlighted that older adolescents, who attained a low or moderate success in school, male adolescents from a wealthy family together with female adolescents from broken homes had greater risk of having intercourse early compared to those with school success, male adolescents from poorest impoverished families and girls from unbroken homes. The evidence presented in this section suggests that there is a need for programme and policy intervention that will tackle specific fundamental environmental and socioeconomic situations which persuade young people to engage in risky sexual behaviours (Adedimeji et al., 2007).

(c). The Policy and legal context.

Despite the fact that culture and religion are vital considerations within community, their consequence can be altered if the government puts in place the correct legal and policy mechanisms that will protect the rights of young people (Okonofua, 2014). Many African countries agree to international documents that aim to safe guard the sexual rights and social developments of people. In reality just a few naturalize such laws and policies at home. For instance, in Nigeria, there are about 28 policies for young people on health and social developments, unfortunately, only a few of these policies are being implemented. Furthermore, in Africa, attempts to increase evidence-based information and services on adolescent reproductive health will bring rewards if states' actors and policymakers include the participation of young people to discover their own needs and develop programmes that answer those needs. There is clearly a need to execute policies around integrated youth-friendly health information and youth-friendly health services (Okonofua, 2014).

The macrosystem level analysis provides an overview of how community characteristics influence adolescent sexual development either positively or negatively. Therefore these should be taken into consideration when developing any intervention regarding adolescent sexual development.

2.5. THE PUBLIC HEALTH IMPLICATIONS OF “RISKY” SEXUAL DEVELOPMENT.

In every population, adolescents are amongst the most sexually active. They engage in regular risky sexual behaviours that may cause threats to their reproductive health (Kayode and Olafoluso, 2016). Little or no accurate information is available to them on the explicit nature of their sexuality needs and the health implications, especially in the developing countries like Nigeria. (Kayode and Olafoluso, 2016). There are various risky sexual behaviours in which adolescent engage, however, for the purpose of this thesis, just a few are highlighted and discussed. These are unprotected sex, early sexual debut, multiple sexual partners, transactional sex, trans-generational sex, coerced or forced sex.

2.5.1. Early sexual debut is defined as the first sexual coitus that occurs before the age of 15 years, this offers the prospect over time for adolescents to be more exposed to contracting HIV, particularly when they are involved with higher risk partners or with multiple partners, and they are less likely to use condoms (Idele et al., 2014; Slap et al., 2003). Likewise, across the globe, early sexual activity among adolescents has been linked to early marriage and early childbearing, which restrains education and other prospects for adolescent girls to attain their full potential (Idele et al., 2014; Slap et al., 2003). In the same vein, Idele et al, (2014) reported that among female adolescents aged 15 to 19years in sub-Saharan Africa, a higher percentage of girls (13%) compared to boys (9%) have had sex before the age of 15. Furthermore, John et al., (2014) indicated that lack of awareness along with other social pressures and power inequity connive to put the adolescent’s health at risk.

2.5.2. Unprotected sex can be defined as heterosexual vaginal intercourse that occurs without the use of a condom or any other contraception (Foster et al., 2012). Condoms have been identified as one of the most proficient means obtainable to decrease sexual transmission of HIV and unintended pregnancy; so far, their use remains disappointingly low in a number of countries with a record of elevated HIV prevalence (Idele et al., 2014). Unprotected sex exposes such people to, unintended pregnancy, STIs including HIV. Also, unprotected sexual intercourse significantly increases the risk of HIV transmission among individuals who are sexually active (Idele et al., 2014). Idele et al., (2014), hypothesized that adolescent girls, in most countries, are less likely to use condoms in their most recent sexual experience than the boys or

those who engage in having multiple sexual partners. Condom use amongst adolescents in very poor households and rural areas is also less frequent. This may be due to low awareness and poor accessibility.

In Nigeria, evidence from a survey revealed that adolescents between ages 15 to 19 years involve in sexual risk behaviour; 56.4% of sexually active boys and 39.6% of sexually active girls have had unprotected sex in the last 12 months of the survey with a non-marital partner (Federal Ministry of Health, (FMOH), 2013). Also, the number of adolescents who engage in this risky sexual behaviour was higher than that identified among other age groups. In Nigeria, transactional sex, multiple sex partners, age mixing of sexual partners (trans-generational) was observed to be on the increase among adolescents (Aboki et al, 2014). Although based on gender there were different sexual practices and sexual behaviours observed among adolescents in Nigeria (Folayan et al., 2014b). That is, the sexual practices among male and female adolescents differ. This may be due to cultural or biological influences.

2.5.3. Multiple sexual partners involves engaging in sexual intercourse with more than one partner over a period of time, it may either be sequential (serialized monogamy) or concurrent (taking place at the same time) (Adogu et al., 2014). A large number of adolescents engage in sexual activity with only a few of them using condoms during sex as well as those with multiple sexual partners. Lack of use may be due to inadequate knowledge on safe sex practices, influence of cultural norms and inaccessibility of condoms thus they are putting themselves at risk of contracting STIs including HIV and unwanted pregnancies (Adogu et al., 2014). Furthermore, Adogu et al., (2014) indicated that individuals engage in multiple sexual partnering for diverse reasons. For instance, it was found that the quest for multiple sexual partners among boys is sexually stimulated, whereas girls are drawn in for economic reasons. However, in Uganda and Malawi, the quest of multiple sexual partners is underpinned by a transaction of gifts or favours and which influences capacity to negotiate the conditions of a sexual relationship (Moore et al., 2007). Therefore, the greater or desperate a need is, the less ability to negotiate safe sex (Adogu et al., 2014). Similarly, data from a study carried out in Anambra state, Nigeria, reveals that 40.8% of the 120 adolescent participants with sexual information have had sex with two or more persons (Duru et al., 2013). Although the percentage of multiple partnering seems somewhat higher in other parts of the country. For example, in Niger state,

Nigeria, out of 294 adolescents 54% have more than one sex partner (Sunmola et al, 2003). While in Delta State, Nigeria, almost one-third of adolescents who are sexually active have had more than one partner with less than 20% of them using condoms (Oboro and Tabowei, 2004). In some societies in Nigeria, multiple sexual partnering among males is cultural and it is believed that it boosts the ego of the men (Adogu et al., 2014). However, multiple sexual partnering in Uganda is greatly esteemed as a sign of superiority. Although, for some persons maintaining multiple sexual partners is a way to select a partner that is better suited for marriage or even acquire experience which is regarded essential for marriage (Moore et al., 2007).

2.5.4. Transactional sex is the exchange of sex for money or favour or material things. It is usually connected with a greater wealth of the male partner and the need or craving for monetary resources by the female partner (Luke and Kurz, 2002). Even though this practice is somewhat universal, it is assumed to be more customary in sub-Saharan Africa (Adogu et al., 2014). Largely, in many societies, the trade of sex for favour or gifts is perceived as normal, and usually, the gifts flow from the male to the female, even though it is often more apparent in trans-generational sex, but it also happens amongst peers such as schoolmates or classmates (Adogu et al., 2014).

Luke and Kurz (2002) indicated that females' financial interest in being involved in transactional sex is classified into three groups: economic survival, (this includes; sometimes being pressured both actively and passively by parents or guardian to provide the required resources for the house), in order to boost better livelihoods, and an opportunity to enhance status among one's peers. Ankomah et al., (2011) highlighted reasons why some adolescents engage in transactional sex, for either financial or material reward. This may be due to parents' inability to provide for their basic needs. However, some adolescents engage in transactional due to lack of contentment or for recognition among their peers. Some of the items and rewards which adolescents are promised that prompt them to have sex include cash, gifts (particularly mobile phones), moreover, in educational establishments, it comes with favours connected to admission, good grades and passing exams. Corroborating this, Moore et al., (2007) in a study conducted in Ghana, Burkina-Faso, Malawi and Uganda using national survey, in-depth interviews and focus group discussions found that money (93%), clothes (33% - 63%) jewellery and cosmetics were the most usually exchanged items for sex. Transactional sex is so prominent that it is found in

both casual and serious relationships. It has also become renowned as one of the fuelling factors of the HIV epidemic in Africa (Adogu et al., 2014). Furthermore, Adogu et al., (2014) mentioned that people who engage in transactional sex are individuals in the general population who perhaps may have a basic means of up-keep or engagement such as either schooling or job. Similarly, Ilika and Anthony, (2004) in a study conducted among young women and unmarried adolescent in the Southeastern part of Nigeria found that over 93% of the participants had sexual relationships for more financial gains. Also, Luke and Kurz (2002) pointed out that female adolescents may lack the ability to negotiate safe sex during a transactional relationship.

In the same vein, Adogu et al., (2014) noted that transactional sex is a common practice among sexually active unmarried female adolescents, although this practice cuts across all ages, and among both in school and out of school girls. Low socioeconomic status, has lured so many young girls to use premarital sexual relations in exchange for economic support (Ilika and Anthony, 2004; Kanku and Mash, 2010). Poverty often reduces their negotiating ability in relation to safe sexual practices such as condom use which makes them more vulnerable (Luke, 2003). The result of such practices, particularly among young, uneducated and or street girls is a cycle of events, these include; unwanted pregnancy, unsafe abortion and STIs including HIV. On the contrary, transactional sex in some cultures or societies are not always for survival. Sex for favour or gifts may occur for other reasons other than subsistence. For instance, a study carried out in the University of Zimbabwe, revealed that girls engage in sex for favour or gift to compete for social status among their peer groups and also to present themselves as high-class girls (Masvawure, 2010).

2.5.5. Trans-generational sex, also known as age mixing or cross-generational sex is defined as women aged 15-19 who have had non-marital sex in the last 12 months with a man who is 10 years or older than themselves (Adogu et al., 2014; USAID, 2003). Adolescent girls in Sub-Saharan African are more susceptible to engaging in trans-generational sex for reasons such as; bartering sex for cash or material things, as a consequence of pervasive poverty (USAID, 2003). For example, a study conducted in Port-Harcourt, Nigeria revealed that about 74.2% girls involve in trans-generational sex, indicating a high prevalence. This is not astounding, as so many wealthy men reside there, as this is an oil-rich city; in most cases, some of these men trick young girls into having sex with them for money and other material reimbursement (Okpani,

and Okpani, 2000). Though, most of the cross-generational sex is transactional, it is however distinguished from commercial sex work or prostitution, Girls who engage in prostitution or commercial sexual activity are mostly situated in a place, brothel or building and they engage in sexual activities with numerous sex partners of diverse age groups (Luke and Kurz, 2002). Moore et al., (2007) states that having sex for money or gifts has often been associated with having a sexual relationship with older partners. Other reasons for such relationships include; boosting one's social status, pleasure, love, material consolation, security, life safeguarding, school fees, shoes or boots, school uniform, food, housing, insecurity, fear of harms (Adogu et al., 2014). The relationships with these older men are sometimes referred to as "*sugar daddies*," purportedly entailing barter for money or gifts for sexual favours (Luke and Kurz, 2002). Also, contrary to the mindset of "*sugar daddies*" some girls prefer having sexual partners who are more than 10 years older than them, because it is believed that older men are more patient and know how to care for females (Moore, Biddlecom, & Zulu, 2007). Luke and Kurz, (2002) highlighted that age, economic asymmetries and gender power differences are assumed to limit adolescent females' ability to negotiate safe sexual practices in a trans-generational sexual relationship. Cross-generational sex requires sex in exchange for money or material things, associated with the reduced use of condom and increased sexual coercion (USAID, 2003). Adogu et al., (2014) mentioned that older men prefer younger adolescents as partners, because they believe they are free from HIV infection. Similarly, the fall of traditional societal institutions has caused a dwindle in family control over young people's behaviour which has led to a gap in young women's information about sex. Despite the fact that, numerous programs and interventions have been put in place to reduce these activities Sub-Saharan Africa unfortunately, nothing yet has been assessed for its efficacy (Adogu et al., 2014). This may be due to the increasing level of poverty in this region. Young people will continue to engage in behaviours that can generate income, to them and their family. Thus, there is a need to advocate for the provision and use of emergency contraceptives and condom.

2.5.6. Forced or Sexual coercion is a serious public health and human rights issue. It can be referred to as any unwanted sexual activity or forceful sexual activity which could meddle with one's life and sometimes social activities (Adejuwon, et al., 2006). It may occur in a relationship where someone is coerced into engaging in a sexual act against his or her wish (Odu and Olusegun 2012). Although, what is perceived as

coercion is gender- and culturally-specific (Moore et al., 2007). Sometimes, the relationship that exists between the individual and the situation surrounding the occurrence of sexual intercourse can influence an individual's perception of what sexual coercion denotes (Moore et al., 2007). For instance, in some cultures in Nigeria, if a boy has spent money on a girl, hence, pressure from the male to engage in sex is tolerable or acceptable (Akanle, 2011). Unfortunately, the culture of silence in Nigeria strengthens the stigma which is attached to the victim instead of the perpetrator, as the prevailing acuity is that women have normally motivated the abuser to attack them. Furthermore, the embarrassment, dishonour and intimidation of victims by the law enforcement agencies, including humiliation from public awareness, prevent victims from taking legal action against perpetrators.

In sub-Saharan, the prevalence of sexual violence ranges from 15 to 40%. However, in Nigeria, studies revealed that the rates of sexual coercion and sexual abuse amongst female adolescents range from 11 and 55% (Adejuwon, et al., 2006; Fatusi, and Blum, 2009; Folayan et al., 2014b). Adejuwon, et al., (2006) in a study conducted among secondary school students in three states in North Eastern Nigeria, found that there are eight factors which are significantly associated with the exposure to sexual coercion among the participants; these factors include: state of origin, school type, gender, age, class, religion, living arrangement and having boy or girlfriends. Although, these may not be applicable, to other states in the country. Evidence from research reveals that there is a significant association between coerced sex and a series of negative reproductive, psychological and emotional health consequences. These include STIs which may cause cervical cancer and infertility, HIV, unwanted pregnancy, which in most instances leads to unsafe abortion which can result in morbidity or mortality, and for some it signifies the onset of risk-taking behaviours as well as non-consensual sexual experiences, multiple partnering and unprotected sex (Garcia-Moreno, & Watts, 2000; Brady et al., 2002; Moore et al., 2007). This corroborates the work of Moore et al., (2007) where the occurrence of coercive sexual debut has been revealed to be linked with other sexual risks behaviours throughout the life course. Thus a need to challenge this behaviour emerges through health education, health promotion of emergency contraception and prosecution of offenders.

2.6. PUBLIC HEALTH RESPONSES TO “RISKY” ADOLESCENT SEXUAL DEVELOPMENT.

2.6.1. The World Health Organisation’s global policies and programmes designed to address the adolescent sexual behaviour.

- In 1990, the Convention on the Rights of the Child stated that “‘children (0-18 years) had the right to information and services to survive and to grow and develop to their full potential’” (WHO, 2016g).
- In 1994, the International Conference on Population and Development’s Programme of Action called for the Sexual and Reproductive Health of Adolescents (SRH) (10-19 years) and young people (10-24 years) to be met (WHO, 2016g).

2.6.2. Policies and Programmes designed to address adolescent sexual behaviour in Nigeria.

The National Conference on Adolescent Reproductive Health in Nigeria in 1999 re-evaluated the country’s compliance status regarding the stands for action espoused by the International Conference on Population and Development (ICPD) (1994) (Adesanya, 2013; Kayode and Olafoluso, 2016). Although, three years before the National Conference, in 1996, a National Task Force comprising of 20 governmental and non-governmental organizations was set-up to expand the guiding principle for Comprehensive Sexuality Education in Nigeria by Action Health Incorporated, who also offered endorsements for more than 70 national organizations, for the promotion of sexuality education in Nigeria (Kayode and Olafoluso, 2016).

In Nigeria, two policies have been channelled towards preventing Adolescent Sexual Risk Behaviour (ASRB). The first policy is the *National Reproductive Health Policy and Strategy*, (2001), which gave birth to the largest SRH education in Nigeria; that is the Family Life and HIV education (FLHE) programme. This policy was the first to provide a broad outline for addressing SRH. In order to significantly generalize the HIV/AIDS prevention in schools, the sexuality education curriculum was reviewed and reassigned as ‘Family Life and HIV Education (FLHE) Curriculum for primary, secondary and tertiary levels of education in Nigeria’ (Nigerian Educational Research And Development Council (NERDC), 2003). The FLHE is a designed course of education that promotes the acquisition of accurate information, formation of

optimistic attitudes, beliefs and values as well as development of skills to deal with the biological, psychological, socio-cultural and spiritual facets of human life (NERDC, 2003). The FLHE curriculum is structured around six subject matters, these include, Human Development, Personal Skills, Sexual Health, Relationships, Sexual Behaviour, Society and Culture (NERDC, 2003).

The second policy is the *National Policy on Health and Development of Adolescents and Young People in Nigeria (2007)*. This policy is a comprehensive policy on adolescent health and it is currently in effect. It focuses on the significance of access to information and Youth Friendly Services (YFS); and covers reproductive health, HIV/AIDS, risky behaviours and sex education. Some other key policies are the National youth policy (2009), Gender policy (2008) and the National School Health Policy (2006).

Although many of these policies have been widely adopted in almost 34 states in Nigeria, implementation (training, texts, and teaching) remains very poorly- resourced despite national policy backing. Thus, there is a need for government and policy makers to support these policies by translating them into meaningful programme interventions.

2.6.3. Key aspects of global progress addressing Adolescent Sexual Reproductive Health.

Globally, there is an emergent acknowledgement of the significance of addressing the SRH of adolescents. According to (WHO, 2016g) the following reflects of the progress made so far:

- The MDG report published by the United Nations in 2011 restated the fact that: "Reaching adolescents is crucial to the improvement of maternal health and achieving other MDG."
- In April 2012, the 45th session of the Commission on Population and Development (CPD), on the subject 'Adolescents and Youth' accepted a milestone declaration encouraging government and development partners to fortify health systems and make certain that they make universal access to sexual and reproductive information and health-care services a priority.
- At the recently completed 65th session of the World Health Assembly, representatives from 30 countries expressed in their contribution to the dialogue on "Early marriages, adolescent and young pregnancies". Premature marriage is

prohibited in most places where it occurs. It is a desecration of the girl child's rights, and it has negative consequences on their health and social life of and their families and communities.

- These awakenings are in agreement with the WHO Global Reproductive Health Strategy to speed up progress towards the achievement of international development goals.

Despite the above stated global progress addressing ASRH, an evidence-based advocacy is urgently required to commence appropriate ASRH interventions for Nigeria's adolescent population as well as constant meticulous evaluation and sharing of lessons learnt thus far about effective strategies to improve the sexual and reproductive health of Nigeria's adolescents.

2.7. Public Health Interventions for Adolescent Sexuality.

Evidence from research conducted in developed and developing countries by experts reveals that addressing adolescent sexual health needs with comprehensive sexuality education (CSE) and other preventive care services such as the promotion of contraceptive use, can help to reduce Adolescent SRB and its consequences (Kirby, 2007; Olasode, 2007).

2.7.1 Comprehensive sexuality education (CSE).

Adolescence is a phase in life when young people are learning enormously about themselves and adapting to body changes (NERDC, 2003, Straus 2004). Irrespective of culture, age, and marital status, the most fundamental desires of adolescents are for correct and comprehensive information regarding their body functions, sex, safer sex, reproduction, sexual negotiation and refusal skills (Bearinger et al., 2007). More-so, in early adolescence, many experience a new vagueness about their bodies and its functionality (NERDC, 2003). With little or no information, adolescents ultimately end up making decisions that are poorly informed which may have severe negative consequences on their lives as well as their future (Bearinger et al., 2007). Thus, adolescents, require comprehensive information and affirmation concerning the changes happening to them. Even while they mature, a number of them still experience confusion regarding what they are assumed to do in a range of situations such as experiencing body changes, making sense of growing relationships with peers and family, feelings, and weighing up contradictory information as regards who they are and what is required of them (NERDC, 2003).

Parents, caregivers, health educators, and communities or societies are confronted with the challenge of building environments that sustain and foster health (NERDC, 2003). Too many people belong to the school of thought that teaching or educating young people on sexuality and humanity would encourage “sexual experimentation”, especially in an African setting. However, NERDC (2003) mentioned that several studies have been conducted to establish whether sexuality education programmes such as the (FLHE) do enhance young people’s body abuse; whether such teaching would encourage “sexual experimentation”. Fortunately, in 1993, the milestone study commissioned by the World Health Organization irrefutably rejected opposed to such beliefs and indicated that there is no significant association connecting receiving formal sexuality (FLHE) education and initiating sexual activity among young people (Grimiest and Kippax, 1993). Rather, it brings about delaying or decreases the incidence of sexual activity and increases the use of effective contraception and espousal of safe sexual behaviour (Kayode, & Olafoluso, 2016). Thus, young people need a comprehensive sexuality education, such as the FLHE programmes in Nigeria, that helps to show and impact positive self-worth.

Comprehensive sexuality education (CSE) may be defined as, ‘a rights-based method that aims to train and prepare young people with the correct knowledge, skills, attitudes and values they require to establish and take pleasure in their sexuality, both physically and emotionally, in person and in relationships’ (International Planned Parenthood Federation 2010, p.6; Huaynoca et al., 2013, p.191). Furthermore, CSE can be described as a process through which a group of young people are given or imparted with the right sexual and reproductive health information and which takes into consideration the development, growth, the anatomy and physiology of the human reproductive system and changes that happen from adolescence through the stages of adulthood (Maduakonam, 2001; Esere, 2008). In- addition, CSE can also be said to be the acquisition of knowledge that deals with human sexuality (Esere, 2008). This allows young people to make informed decisions about their sexuality and health. It is taught by initiating age-appropriate information commensurate with the evolving abilities of young people (United Nations Population Fund, UNFPA, 2016). Beaumont and Maguire (2013) stated that, for sexuality education lessons to be effective they should be all-inclusive (comprehensive). They should not only focus on the physical, a physiological and biological facet of reproductive health, but also the ethical, moral and emotional characteristics. This corroborates with the reports of

Oluwatoyin and Modupe (2014) that a CSE is all-encompassing and should address the biological, socio-cultural, psychological and spiritual dimensions of sexuality from three perspectives, which are the affective, behavioural and cognitive domains. The affective domain deals with the emotional and attitudinal components of sexuality, the behavioural domain focuses on precise behaviour and educates on the skills required to negotiate safe and satisfying sexual health. The cognitive domain addresses the need for accurate knowledge.

Oluwatoyin and Modupe (2014) further stated that CSE offers correct information on reproductive health, helps individuals to knowingly explore, believe, query, affirm and build up their own feelings, attitudes and morals on the diverse scope of sexuality. Arguably adolescents can then effectively manage their sexual relationships in adulthood as well as organize their fertility and enhance their own sexual health and that of their partner. UNFPA (2016) affirm that CSE programmes for adolescents help to build life skills and enhance accountable behaviours, and since these behaviours are based on the basic human rights philosophy, they facilitate the advancement of human rights, gender equality and the empowerment of adolescents. Inyang and Inyang, (2013) corroborated this assertion by emphasizing that sex education is a lifelong process of receiving information attitudes, ethics and beliefs. It entails information on sexual development, sexual and reproductive health, interrelationships, affection and intimacy (Sexuality Information and Education Council of the United States (SIECUS) (2008).

In 1994, the International Conference on Population and Development in Cairo requested for worldwide coverage of sexuality education (UN, 1995). In 2012, the 45th session of the Commission on Population and Development (CPD) reported that although sexuality education was included in global and regional health strategies and ministerial declarations, unfortunately, the request made in Cairo has been incompletely addressed particularly in developing countries (UN 2012). Similarly, according to UNESCO in most developing countries, only a few numbers of adolescents aged 10 to 19 years are being reached by sexuality education programmes (UNESCO 2012). However, the situation is mixed in developed countries, in that CSE only attains a high coverage level in countries where it is being enforced and as well as countries where sustenance for its relevance has not faded (UNESCO 2012). For instance, in most Member States of the European Union, sexuality education has been

made mandatory except in Bulgaria, Cyprus, Italy, Lithuania, Poland, Romania and the United Kingdom (Stull, 2012). Sexuality education was made compulsory in all schools in 1986 in Germany, 1970 in Denmark, Finland and Austria, and in 1998 in France (Beaumont, and Maguire 2013). The Federal Law of the United States of America (USA) states that ‘every school-aged child should not get involved in sexual activity. As the world advances in technology and knowledge, young people especially adolescents are in need of realistic and updated information on sexual matters. Furthermore, adolescents need to acquire skills needed to build healthy relationships and for making responsible decisions regarding their sexuality (Kirby, 2011).

In response to adolescents and young people’s needs for information and guidance in behavioural skills; a rising international association has been supporting the right of adolescents to obtain correct and objective information about sexuality and how to create good relationships and make choices for themselves (Kirby, 2011) This association founded its activities on internationally renowned human rights principles in respect of the facts that adolescents have the right to obtain information crucial for their health and development (United Nations Committee on Economic, Social and Cultural Rights, 2000; United Nations Committee on the Rights of the Child, 2003). These principles stipulate that Governments have roles and responsibilities to creating programmes that offer both adolescent girls and boys, whether in or out of school, correct and suitable information to allow them to sustain their sexual and reproductive health (Kirby, 2011). Consequently, an increasing number of reproductive health professionals, schools, clinics and Non-Governmental Organizations (NGO) have developed and executed an extensive range of programs intended at providing sex education as well as the prevention of STIs, including HIV/AIDS.

However, historically in Nigeria, it was customary to guard adolescents from receiving education on sexual matters as it was fallaciously thought that lack of knowledge would promote chastity. The extensive unprotected sexual activities amongst adolescents and the overwhelming consequences suggest that this approach is a total failure. Evidence from studies conducted on sexual and reproductive health behaviour of young people in Nigerian reveals that they had not been taught formally on the subject of sexuality (Kayode, & Olafoluso, 2016). Thus, they receive and filter such information from peers, new magazines, internet and biology classes (Adesanya, 2013). Fortunately, now in Nigeria, government policy national level has identified the

immediate SRH needs of young people in the country. It has acted on its policy obligation; making the country one of the few developing nations to implement almost a nationwide CSE programme (Ministry of Health 2007; UNESCO, 2010; UNESCO, 2012). The initiation and incorporation of the FLHE curriculum into the educational system of Nigeria was a joined effort of the Action Health Incorporated (AHI) in 2003 and the Nigerian Educational Research and Development Council (NERDC) (NERDC, 2003).

The development of FLHE was a response to the request from the International Conference for Population and Development's (ICPD's) program of action, for adolescents' SRH as well as the acknowledgment of the necessity to deliver CSE to young people (Dlamini et al., 2012; Aham-Chiabuotu and Aja, 2017). The FLHE was to be delivered to primary, secondary and tertiary levels of education. Young people are helped to have an enhanced understanding of family living and themselves. An extensive approach to HIV prevention is presented at the same time (NERDC, 2003). The FLHE curriculum was supported by the National Policy on the Health and Development of Adolescents and Young People, which spearheaded its development, adequate implementation, and capacity building for teachers (FMOH, Nigeria, 2007). Although, Aham-Chiabuotu and Aja, (2017) highlighted that there is still a deficiency of information on the level of CSE implementation and its impact on adolescents' SRH behaviours and outcomes. This situation continues in spite of the introduction of the Family Life and HIV Education Curriculum (FLHE) into the country's educational system (Aham-Chiabuotu and Aja, 2017).

There are various reports on the efficacy of CSE, although the efficiency has been evaluated based on a change in knowledge, attitude and self-report on the change in behaviour (Haberland and Rogow, 2015; Aham-Chiabuotu and Aja, 2017). However, CSE programmes are very important for adolescents as these programmes aim to delay early sexual debut, decrease sexual risk, reduce the number of sexual encounters and partners, reduce the incidence of teenage pregnancy, and enhance the increase in the use of condoms and effective contraceptive methods among adolescents (Kirby, 2011). In most cases, such a programme also inspires the promotion of testing for STIs and or reducing sexual violence. This is consistent with the findings of Beaumont and Maguire (2013) who state that inconsistent or inadequate sexuality education results in a higher pregnancy rate amongst adolescents and an increased number of people

suffering from STIs. Therefore, CSE for adolescents or young people is considered a suitable way to prevent serious diseases and to improve a positive development of an individual (Beaumont, and Maguire, 2013).

In most countries, CSE programmes are hypothesized to be particularly appropriate for the school environment. This is because it is a setting where one can easily access and reach out to large numbers of young people with different socioeconomic backgrounds at early stages of their development and prior to the time they become sexually active with a planned programme that is replicable and can become sustained (Kirby et al., 2007; Kirby 2011). Most of the sex education programme are based on a written curriculum and are executed by focusing on groups of young people (Kirby, 2011). In order to reach to adolescents early in puberty, school settings can offer young people the information and skills needed to make accountable decisions about their future sexual lives (Kirby et al., 2007; Kirby 2011). School-based sexuality education entails the action and support of teachers to receive and assist young people who have enquiries about sexuality and help them find and give information and solutions to likely problems (Beaumont, and Maguire, 2013). However, in countries (particularly developing countries) where great numbers of young people are not enrolled in secondary school due to poverty, sex education programmes can be implemented in clinics and community settings that attract young people, for instance, the Young Friendly Clinic Service (YFCS) (Kirby 2011).

The abstinence-only sexual education programme is another important aspect of comprehensive sexual education. Abstinence sex education tutors adolescents to refrain from premarital sexual intercourse and appreciate the benefits, such as prevention of unintended pregnancies, HIV and STIs (Collins et al., 2002). In the United States of America, the Federal Laws state that every school-aged child should not be involved in sexual activity and that sexual activity should be within the boundaries of monogamous marital relations in order to prevent the psychological and physical effects associated with premarital sexual activities (Collins et al., 2002; Kirby, 2005). Despite the benefits of abstinence-only sexual education, several studies have opposed it in favour of comprehensive sexual education (Collins et al., 2002; Dennison, 2004; Kirby, 2005), arguing that it is only a comprehensive sexuality education that is capable of delaying first sexual activities. According to Collins et al., (2002) and Kirby (2002) Abstinence-only sexuality education lacks of its strong

evidence of effectiveness due to flaws in research designs. This finding is consistent with the report of Underhill et al., (2007a) who maintain that abstinence-only sex education does not influence the sexual behaviour of adolescents. Bruckner and Bearman (2005) and research by the Alan Guttmacher Institute (2002) further highlighted that young people who accept abstinence-only sexual education still engage in premarital-sex, and hence there is no disparity between adolescents that embrace abstinence-only sexual education and those who do not in relation to the number of sexual partners and ages of sexual debut (Trenholm et al., 2007). It also has not helped to reduce the plague of HIV/AIDS (Underhill et al., 2007b). Bennett and Assefi (2005) report that one of the major weaknesses of abstinence-only sex education is the failure to give an adolescent message about contraceptive use.

Notably, several studies revealed that comprehensive sexuality education is the preference of most parents and adolescents (Ito et al., 2006 and Eisenberg et al., 2008) and thus, should be advocated for all the sexually active adolescents. Nevertheless, studies have suggested abstinence-only sexual education is acceptable only if the contraceptive education and risk reduction in the already sexually active adolescents is included (Inyang and Inyang, 2013). Inyang and Inyang (2013) conducted a study among secondary school adolescents in Nigeria, where it was discovered that adolescents generally are not fully in support of abstinence-only sexual education. Only 314 responded in agreement to abstinence-only sexual education out of a total 2000 respondents, while 1686 were not in support of it. However, the highest number among those that supported abstinence-only sexual education and delaying until marriage was the youngest group of adolescents between the ages of 11-13 years. Similarly, the adolescents that disagreed with abstinence-only sexual education were between the ages of 14–19 years. This may be because they are within the age of socialization, wherein they are exposed to various opinions and views about premarital sex. Most of them might already be sexually active and have engaged in premarital sex. Abstinence-only sexual education may not therefore be either sensible or acceptable to this group of adolescents.

2.7.2 Access to effective contraceptive and STIs prevention services.

Many adolescents in developing countries, are faced with the burden of unintended pregnancies due to a lack of accessibility to contraceptives (Gottschalk and Ortayli, 2014; Guttmacher Institute, 2010; UNICEF, 2011). In sub-Saharan African, Latin

America and the Caribbean and South Central and Southeast Asia, it is approximated that there are over six million unplanned pregnancies either unwanted or mistimed each year, of which 90% of them occur in adolescent women who are not using a modern method of contraception (Gottschalk and Ortayli, 2014). A broad range of factors place adolescents that are sexually active at a higher risk of unintended pregnancies than older women. These including poor knowledge on sexual health, legal barriers to accessing services, provider unfairness, the stigma around premarital sex and less authority in marital unions (Williamson et al., 2009). However, in resource-poor settings, this risk may be increased due to poor service quality coupled with social and economic pressures to get involved in sexual relationships at an immature age (Williamson et al., 2009). Also, in most low and middle-income countries married adolescents are usually forced to bear children and are in most cases not aware of contraception. The unmarried adolescents have an unrecognized and recurrently unmeasured need for contraception. Notably, all sexually active adolescents, irrespective of their marital status, deserve to have their contraceptive needs recognized, considered and responded to (Chandra-Mouli et al., 2014). Chandra-Mouli et al, (2014) that the barriers adolescents encounter in accessing and using contraception are universal across settings and cultures of developing countries.

According to UNAIDS, (2015) condoms are vital in a broad and sustainable method for the prevention of STIs including HIV and are effective for preventing unintended pregnancies. In developing countries, approximately, 14% of adolescent girls are married by age 15 years, and about 30% are married by age 18 (The National Research Council and Institute of Medicine, 2005). Married adolescents or those in relationships require contraceptive services, as early pregnancy is connected with increased maternal and neonatal morbidity and mortality (WHO, 2012b). Hassani (2010) states that the use of contraceptive methods is fundamental to the avoidance of negative reproductive health results. WHO (2002-2003) reveals that young females may not feel comfortable discussing contraceptive methods, likewise, most young males do not wish to do so as they assume contraception to be the duty of women (WHO, 2002-2003).

In 2011, the WHO enacted a guideline on preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries (WHO, 2011). These guidelines stemmed from published systematic reviews and individual studies,

as well as the joint conclusion of an expert panel. One of the key interventions recommended by the WHO is tackling of the need for contraception among adolescents, which potentially reduces unplanned pregnancies, rescues millions of lives and advances the social status of young women in developing countries. Three more interventions were to prevent early marriage, that is, marriage before age 18 years, enhance knowledge and understanding of the significance of pregnancy prevention and preventing coerced sex (WHO, 2011; Gottschalk and Ortayli, 2014). Policy makers need to reform laws and policies to ensure that adolescents are able to access contraceptive information, counselling and services as well as the provision of contraception to adolescents at no or reduced cost (Chandra-Mouli et al., 2014; WHO, 2011).

In some cultural settings premarital sexual activity is considered not acceptable. This tradition acts as a huge resistance to the provision of contraceptive information and services to adolescents that are unmarried (Chandra-Mouli et al., 2014). However, this barrier can be addressed by improving the knowledge of influential community leaders as well as of the community at large on adolescent's needs for information and contraception, and the potential threats that may arise to their well-being, if their needs are not attended to (WHO, 2011). Similarly, gaps in knowledge and misapprehension thwart the use or proper use of contraceptive methods. Nevertheless, mass media, peer-education, and interpersonal education and communication, education communication materials (such as posters, leaflets and flyers) have been successfully used to commune health information to adolescents, and to influence their norms and beliefs (WHO, 2011). Tu et al, (2008) highlighted that most adolescents in various places are reluctant to visit services providing contraception as they view them as unfriendly. Thus there is a need to make health services more adolescent friendly. Although, male condoms are the contraception method most frequently used by adolescents as they are readily accessible and inexpensive (Pulerwitz and Barker, 2004). Nevertheless, there is an urgent need to make a broad range of contraceptive methods available and accessible to adolescents, and through counselling them to select a method that meets their individual needs (Chandra-Mouli et al., 2014). In agreement with the WHO's eligibility criteria for contraceptive provision (Tu et al, 2008), a variety of methods are suitable for adolescents as age should not dictate the contraceptive method. Furthermore, to enhance adolescent access to contraceptive services, there is a need to incorporate contraceptive education, counselling and

provision of contraceptives into health services used by adolescents, some of which are; STI management, counselling and testing for HIV, comprehensive abortion care services and postpartum care (Chandra-Mouli et al., 2014). More-so, health facilities must be made easily accessible and welcoming, have sufficient stocks of a variety of contraceptive methods, empathetic and proficient health workers who can guide adolescents in selecting their choice of contraceptive (Chandra-Mouli et al., 2014; WHO, 2011).

Summary:

This chapter has addressed key historical, contextual and structural issues which underpin and direct the proposed study.

Significant epidemiological facts demonstrate that adolescent risky sexual behaviour continues to be a public health burden. Nigeria's birth rate for adolescents is one of the highest in the world. Likewise, the prevalence of STIs including HIV, among adolescents in Nigeria, is climbing rapidly making them a high-risk group in HIV transmission (Adeomi et al., 2014). Similarly the rate of unwanted pregnancy and unsafe abortion among young people is on the increase. This calls for an urgent public health intervention.

The Nigerian context is significant because cultural norms and gender roles, which vary by ethnicity, may either promote or prevent risky behaviour among adolescents.

There are many complex issues that have an influence on adolescent sexual development and whether these involve risks. Bronfenbrenner's model was chosen as a means of organising existing literature.

Micro-systems are important because they reflect the small, immediate environment an adolescent lives in. The micro-system helps to identify how individual factors influence adolescent sexual behaviour either positively or negatively. Thus, the need arises for the positive influences to be promoted and the negative influences to be addressed through appropriate interventions.

Meso-systems are important because they describe how the different parts of an adolescent's microsystem work together. The meso-system is used to identify relationships within family and peers that influence adolescent sexual behaviour

negatively and positively. The positive influences of these relationships demand attention and promotion.

Exo-systems are important because they include the other people and places that adolescents may not frequently interact with but which still exert an effect on them. The exo-system identifies community influences on adolescent sexual behaviour, both positively and negatively. Therefore, interventions that promote positive influences of the community on adolescent sexual behaviour are required.

Macro-systems are important because they reflect the largest and most remote set of people and structures but which have a great influence over the adolescent. This tier was used to identify larger society influences on adolescent sexual behaviour, supporting the need to promote positive influences and tackle negative influences within overarching structures.

However, in spite of an extensive literature review little is known about adolescent sexual development in Ibadan, Oyo state, Nigeria. No previous study was found which investigated this topic using a longitudinal mixed-method approach. Therefore, this study seeks to explore how demographic and attitudinal factors which influence adolescent sexual development, in the Nigerian context, can be best employed in order to tailor specific appropriate public health interventions.

CHAPTER THREE

Research Methodology and Design

3.1 Chapter Overview.

This chapter explains the methodology of this research and the methods used in the study. It presents the underpinning philosophy, as well as the beliefs and assumptions that define the worldview for this study. The guiding principles for using a mixed method approach together with the researcher's choice of philosophical assumptions (ontological, epistemological and methodological) are presented. The research methods highlight the theoretical and methodological challenges of exploring sensitive issues in adolescents and adults. The chapter concludes with the ethical approval and governance related to the project including, sampling frames and methods of data analysis.

3.2 Research Methodology: Research Philosophy.

A paradigm can be clearly defined as a world-view; a fundamental set of beliefs or assumptions that direct a researcher's investigation (Rocco et al., 2003). Tashakkori and Teddlie (1998) state that paradigms are distinct world-views or belief schemes that are indications and dictators of decisions that researchers make. Bryman (2004) highlights a paradigm as beliefs or edicts, which, for scientists in a specific discipline, delineate what should be studied, how research should be carried out as well as how results should be interpreted. Creswell and Plano Clark (2011) state that there are four worldviews used in research with distinct characteristics (See Table below 3.1).

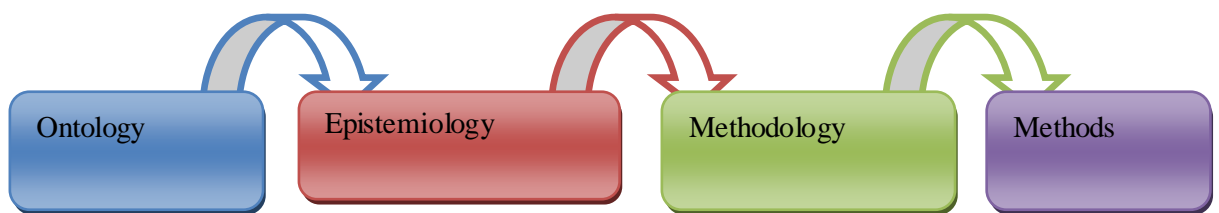
Table 3.1. Fundamental characteristics of four worldviews used in research.

Postpositivist worldview	Constructivist worldview	Participatory worldview	Pragmatist worldview
Determination	Understanding	Political	Consequences of action
Reductionism	Multiple participants meanings	Empowerment and issue-oriented	Problem-centered
Empirical observation and measurement	Social and historical construction	collaborative	Pluralistics
Theory verification	Theory generation	Change oriented	Real world practice oriented

Source: Adapted from Creswell and Plano Clark, (2011).

Similarly paradigms are underpinned and vary from each other based on beliefs and assumptions about four philosophical questions (see figure 3.1) that build the research strategy, (Guba and Lincoln, 1994). These four components have significant control over the process and interpretation of the investigation, (Hall et al., 2013).

Figure 3.1. The relationship between elements of a research paradigm.



Ontology – Represents the various views on the nature of reality, ontological assumptions are apprehensive with what makes up reality, that is, researchers are required to take a stance concerning their views of how things really are and how they work (Guba and Lincoln, 1994; Creswell, Vicki and Plano, 2009; Hall, Griffiths, and McKenna, 2013).

Epistemology – Addresses the nature of knowledge, how knowledge is acquired of what is known that is, to the nature of knowledge; likewise, it is about how reality is discovered. Epistemology explains the question regarding what is known, what can be known and the correlation between the known (the researched) and the prospective knower (the researcher), (Guba and Lincoln, 1994; Rocco et al., 2003).

Methodology – This is simply known as the process of the research. This comes after responding to the epistemological question where methodology put forward the question of how the researcher may possibly set about finding what he/she believes could be known. The process is also concerned with why, what, from where, when and how data are collected and analyzed (Guba and Lincoln, 1994; Creswell et al., 2009; Hall et al., 2013). Therefore, one can say that research methodologies rely on the underpinning ontology and epistemology, (that is, the nature of reality and knowledge).

Methods – These are sometimes named research tools. They illuminate the enquiry in relation to the means through which knowledge could be gathered (Guba and Lincoln, 1994). They are all the diverse tools and approaches that are used by the researchers to facilitate the building up of knowledge. This completes the process of collecting and analyzing data (Johnson et al., 2007). They imply the practical application of methodologies in an actual research project.

3.3 The Pragmatist Philosophical Position.

In achieving the aim of this research, which is to investigate the pathways to and of sexual development amongst a school-aged sample of adolescents in Ibadan, Oyo State, Nigeria. Longitudinal mixed methods was used. This research was undertaken from a “pragmatic approach” as a philosophical underpinning for mixed methods research (Creswell, 2009). A pragmatist paradigm is basically associated with mixed method research. It focuses on the results of the research, on the basic significance of the questions asked rather than the methods and also on the use of multiple methods of data collection to address the problem being studied. It is, therefore, pluralistic and aligned towards what works in practice (Creswell and Plano Clark, 2011). This is appropriate for this study because pragmatists connect the preference of approach directly to the principle and the nature of the research questions posed (Creswell, 2003). Similarly, Armitage (2007) states that a pragmatic paradigm is a set of beliefs, which originated as a single paradigm response to the deliberation surrounding the “paradigm wars” and the appearance of mixed methods and mixed model approaches. Going by the ontological view of a pragmatist (singular and multiples realities) multiple perspectives and diverse viewpoints (survey and interview) regarding social realities is used to address research questions for this study as stated in Chapter One. Likewise, the epistemological instance for pragmatism involves practicality, in that the researcher collects data by what works to address their research question (Creswell et al., 2009). Therefore, in this research a combined quantitative and qualitative data collection method was used to address the research questions (Creswell et al., 2009).

The debate termed by Tashakkori and Teddlie (1998) as “Paradigm Wars” originated with a dispute to the governance of the mono method era during the 1960s and

resulted in the appearance of mixed methods and afterwards in the 1990's of mixed model eras. At the time of these "wars" debate arose around the correlation between paradigm and methodology (Tashakkori and Teddlie 2003). This began with theorists who saw the disparity between the two traditional paradigms of post-positivism and constructivism as incompatible and as a result the use of mixed methods and mixed model approaches become unsustainable. These authors were highlighted as the "incompatibility theorists" and individuals that saw the discrepancy between the two paradigms and the elitism of their methods as overplayed (Cherryholmes, 1992). Creswell (2003) states that a pragmatic paradigm is pluralistic based on a dismissal of the forced alternative between post-positivism and constructivism (Creswell, 2003). The mixed methods and mixed models deliberation resulted in the surfacing of a third set of beliefs (the third way): the pragmatic paradigm. The switch of researchers to mixed methods approach reveals research designs that used "mixing" of quantitative or qualitative approaches at the stage of data collection of a study. Whereas the mixed model approach used the "mixing" aspects of the quantitative or qualitative approach at multiple stages of the research, that is in data, collection and analysis (Creswell 2003). Patton, (1990) further states that pragmatism as a world-view originated from actions, situations and consequences rather than background or previous conditions (as that of post-positivism). There is an apprehension with the relevance of what works and solutions to the problem. Rather than paying attention to methods, researchers accentuate the research problems and apply all approaches obtainable to comprehend the problem (Creswell, 2009).

Tashakkori and Teddlie (1998) express significance for focusing attention on the research problem in social science research and subsequently using pluralistic approaches to derive knowledge about the problem. The pragmatic world-view is based on the assumption that collecting diverse types of data provides better understanding of a research problem which this research aims to do (Creswell, 2009). Likewise, individual researchers have free-will of selection, that is, researchers are free to select the methods, techniques and procedures of research that best suit their study and rationale (Cherryholmes, 1992). Corroborating this, Armitage, (2007) states that research is usually versatile, and a "what works" tactic will permit the researcher to tackle questions that do not assemble comfortably within a completely quantitative or qualitative approach to design and methodology.

In the same vein, Tashakkori and Teddlie (1998) and Creswell (2003) indicated that a pragmatic paradigm has an instinctive appeal: a permission to study areas that are of interest, taking up methods that are suitable and using findings in an optimistic approach in agreement with the value system held by the researcher (Creswell, 2003). From the above statements, it can be argued that the pragmatic paradigm can be assumed appropriate for the use of social and management research activities. This is fitting with the mixed quantitative and qualitative approach involved within the inclination of “practitioner-based” research (Armitage, 2007).

3.4. Theoretical Foundations (Social science theory).

A theoretical foundation in mixed method is a stance, standpoint, or lens adopted by the researcher that offers direction for the various stages of a mixed method appropriate (Creswell and Plano Clark, 2011). According to Crotty (1998), a theory functions in a definite perspective compared to worldviews. There are typically two types of theory that are used to inform mixed method research. These are social sciences theory and emancipatory theory. The social science theory was deemed suitable for this study because it is situated at the start of a mixed method study. It offers structure from the social sciences that models the kind of questions asked and the questions answered in a study as well as the data collected which could either be quantitative or qualitative or mixed (Creswell and Plano Clark, 2011). Similarly, the social science theory could either be a theory of behavioural change, the theory of adoption or diffusion, leadership theory or any other form or types of social theory. It could also be presented in the literature review as the conceptual model or theory that aids understanding of what the researcher seeks to discover in a study. For this study, the Urie Bronfenbrenner’s Ecological Systems theory is used and was presented in the Literature Review (See Chapter Two) as a framework to which the factors influencing adolescent sexual development were explored, discussed and highlighted from the literature. Urie Bronfenbrenner’s Ecological Systems Theory (1979), addresses the relationship between the individual and the environment through four interlocking levels of influence; the microsystems, mesosystems, exosystems, macrosystems. This theory is of the notion that behaviour is influenced by factors at different levels even though it is expected that individuals take up the responsibility to create and maintain a healthy lifestyle which is imperative to reduce risk and improve health.

3.4.1 Mixed-methods and the Pragmatic Worldview.

The birth of mixed methods research came with its use among fieldwork sociologists and cultural anthropologists early in the 20th century (Creswell, 1999; Johnson et al., 2007). Pragmatism is commonly considered as the philosophical underpinning for the mixed methods approach and which differentiates the approach from only quantitative approaches that are established on a philosophy of (post) positivism and solely qualitative approaches that are established on a philosophy of interpretivism or constructivism (Maxcy, 2003; Rallis and Rossman, 2003; Johnson and Onwuegbuzie, 2004). Pragmatism facilitates the understanding of how research methods can be mixed productively (Johnson and Onwuegbuzie, 2004).

Pragmatism is not committed to just one system of philosophy and reality. It relates to mixed methods research, where researchers extract liberally from both quantitative and qualitative assumptions (Creswell, 2009). Tashakkori and Teddlie, (1998) purport that pragmatism offers a combination of methods. Mixed methods researchers seek similarity with, some compatibility among the old philosophies of research. In the same vein, pragmatism gives a base for using mixed methods approaches as a 'third substitute', a different alternative open for social researchers. If for instance, they make a decision that neither quantitative nor qualitative research alone will produce ample results for the specific of research they deem fit to carry out (Johnson et al., 2007). Pragmatist does not see the world as an absolute unity, and similarly, mixed method researchers look to many approaches for collecting and analyzing data (Cherryholmes, 1992). The pragmatist researchers visualize what and how to research, on the basis of the intended results. The mixed-method researcher needs to state a purpose for the combination, which is a justification for the reasons why quantitative and qualitative data need to be combined (Creswell, 2009). On the contrary, there were periods when pragmatism was considered as a new accepted view, established on the belief that not only is it permitted to mix methods from diverse paradigms of research rather, it seems advantageous to do so since good social research is perceived to almost certainly necessitate the utilizing of both quantitative and qualitative research in order to give sufficient answers (Rocco et al., 2003; Greene et al., 2005). However, for the mixed method researcher, pragmatism releases the door to many methods, diverse world-view, and different postulations, as well as varying forms of data collection and analysis (Cherryholmes, 1992; Creswell, 2009). Mixed methods

approach integrates a specific set of ideas and practices which distinguishes this approach from the other major research paradigms.

3.5. Mixed Methods Approaches.

Methodology is key element of any research paradigm. Methodology addresses how the researcher finds out what he/she believes might be known, (Guba and Lincoln, 1994). The *philosophical and methodological* influence each other and this reflected in research aims. The methodology for this thesis has been informed by considering the aims/objectives of this research. Mixed methods as a methodology involves the philosophical assumption that pilots the direction of the data collection, data analysis and the combination of both quantitative and qualitative approaches through the stages of the research process (Creswell and Plano Clark, 2011). Mixed methods have been chosen in order to help provide a diverse world-view and different assumptions to the research topic under investigation by combining both quantitative (broad numeric trends, causal associations) and qualitative data (detailed views). Therefore, for this study, mixed method design was used to investigate sexual development trajectories and actions amongst a school-aged sample of adolescents in Ibadan, Oyo State, Nigeria. The cross-sectional survey instrument allowed for paired observations over time.

An important principle of mixed method design is to identify the reason(s) for mixing quantitative and qualitative methods. Greene et al., (1998) highlighted five broad reasons for mixing methods. These are (see table 3.2 below).

Table 3.2. Rationale for mixing method.

Triangulation	To seek concurrence, validation and correspondence of findings from the various methods.
Complementarity	To seek out for expansion, augmentation, illustration, and explanation of the result from one method with the result from the other method or vice versa
Developments	To use the findings from one method to assist in initiating or informing the other method, where development is widely interpreted to include sampling and implementation including a decision on an analysis
Initiation	To seek the finding of inconsistencies and contradictions, new perception of frameworks, the transforming of questions or findings from the other method.
Expansion	To broaden the breadth and dimension of inquiry by adopting different methods for different inquiry constituents.

The conventional paradigms admit well-established epistemologies, mixed methods philosophers sensed it needed to discover a distinct philosophical foundation to sustain and distinguish the concept (Tashakkori and Teddlie 2003). Mixed methods are often considered as liberating since they are “accepting all justifiable methodological traditions” (Greene 2005). Majoring in this, several theorists, as well as Teddlie and Tashakkori (2003) and Jonson and Onwuegbuzie (2004) have suggested that pragmatism is the most suitable epistemology for mixed methods. With the added potency specified by the espousal of pragmatism, mixed methods were in recent times asserted to be a ‘third paradigm’ (Jonson and Onwuegbuzie, 2004; Johnson, Onwuegbuzie, and Turner, 2007; Symonds and Gorard, 2008). Johnson and Onwuegbuzie, (2004), defined mixed methods research as a set of investigations where the researcher combines quantitative and qualitative research procedures, methods, approaches, concepts and idioms into a lone study. Similarly, mixed method research adopts the pragmatic technique and system of beliefs, its approach of investigation embraces the utilization of induction (or detection of models), deduction (testing of theories and hypotheses), and abduction (revealing and adopting the most suitable set of justification for accepting one’s findings) (de Waal, 2000; Johnson and Onwuegbuzie, 2004).

Creswell and Plano Clark, (2011) state that there are four important decisions involved in selecting a suitable mixed methods design. These decisions address the various ways which quantitative and qualitative strands of the study interact with each other. (A strand is an element of a study that includes the fundamental process of carrying out quantitative or qualitative research: putting forward a question, gathering data, analysing data and interpreting findings). These include the following; the level of interaction, the relative priority of the strands, the timing of the stands, the procedures for mixing the strands,

- ❖ The level of interaction: this is the level to which the two strands interact or are kept independent from each other. This can either be an independent level of interaction or interactive level of interaction. The interactive level of interaction was used in this study: this is when a direct interaction occurs between the quantitative and qualitative strands of the study, through this the two methods are mixed before the final interpretation of the findings. Notably, interaction can occur at different points in the research process. In this research, interaction took place using the same research questions, data collection and analysis where required.
- ❖ The relative priority of the strands: this refers to the weighing of quantitative and qualitative methods for addressing the study enquiries. There are three likely choices for mixed method design; they are either equal priority, quantitative priority and or qualitative priority. Quantitative priority is adopted in the study, where a greater importance is placed on the quantitative method. Qualitative methods are adopted in a second phase.
- ❖ The timing of the strands: this refers to the chronological relationship between the quantitative and qualitative strands in a study. Emphasis is on when the data sets are collected, the order of collection and the order in which the researcher uses the results from the two dataset. This either occurs concurrently, sequentially or at the multiphase combination. Concurrent timing has been used in this research where the researcher carries out both the quantitative and qualitative strands during a single phase of the research study.
- ❖ The procedures for mixing the strands: this is the precise integral nature of the study's quantitative and qualitative strands, referred to as combination and integrating. A researcher initiates either the independent or interactive

relationship of the mixed method. There are two concepts which are helpful in comprehending when and how mixing occurs, the point of interface (also known as the stage of integration) and mixing approach. Notably, mixing occurs at four likely points in a mixed method research. These are interpretation, data analysis, data collection and design. Mixing occurred during this study at the data analysis and interpretation phase.

There are four major types of mixed method design (Tashakkori and Teddlie, 2003; Creswell and Plano Clark 2007; Creswell, 2009; Teddlie and Tashakkori, 2009; Creswell and Plano Clark, 2011). This is illustrated in the table 3.3 below

Table 3.3. Mixed methods design types.

Criteria						
Timing	Designs	Weighting	Mixing/ stage of integration	Notation	Theoretical perspective	Description
Sequential	Explanatory	Usually quantitative	Interpretation phase	QUAN→qual	May be present	The researcher seeks to elaborate on or expand the findings of one method with another method
	Exploratory	Usually qualitative	Interpretation phase	QUAL→quan		
	Transformative	Qualitative, quantitative or equal	Interpretation phase	qual→quan or quan→qual	Use of theoretical perspective (e.g. advocacy)	
Concurrent	Triangulation	Preferably equal; can be quant or qual	Interpretation or analysis phase	QUAN + QUAL	May be present	The researcher converges two types of data at same time to provide an inclusive analysis of the research
	Embedded	Qualitative or quantitative	Analysis phase	QUAN(qual) or QUAL(quant)		
	Transformative	Qualitative, quantitative or equal	Usually analysis phase, can be interpretation phase too	qual + quan or quan + qual	Use of theoretical perspective (e.g. advocacy)	

Source: Gashaw et al., (2015)

Creswell and Plano Clark (2007) wrote that there are four factors that help to mold the processes of a mixed method. These include; **timing weight, mixing and theorizing**. These four processes influence the strategies used for data collection which also varies depending on the type of mixed method design.

3.5.1 THE STRENGTHS AND LIMITATIONS OF MIXED METHODS APPROACHES.

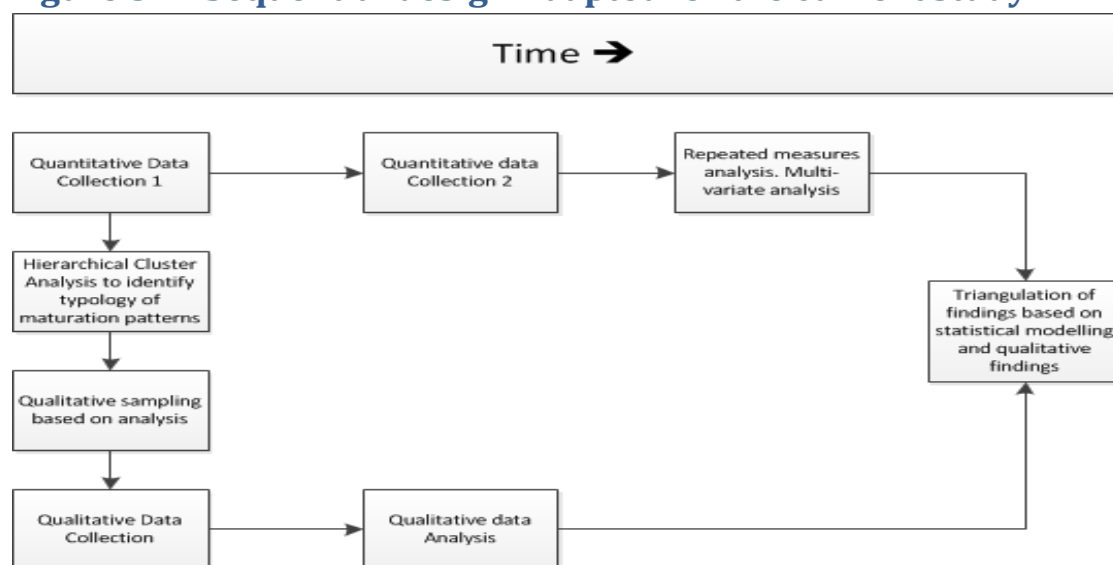
The strength and limitations of mixed method research will be stated according to Johnson and Onwuegbuzie, (2004) and Creswell, and Plano Clark (2011). The first strength of mixed methodology is that it is a “practicable answer” to the apparently continuous debate between qualitative and quantitative traditionalists. It is practical in the sense that the researcher has an opportunity to use any research method to address research problem(s). It is also practical because researcher solves the problem using numbers and words combining inductive and deductive thinking and utilizing skills in observing people as well as recording behaviour. Mixed method research provides a strength that offsets the individual weakness of qualitative and quantitative research. The combination of the strength of one approach makes up for the weakness of another approach. Likewise, mixed method offers a broad rationale for addressing a research problem compared to using either qualitative or quantitative methods alone. Researchers are enabled to use the various types of data collection tools rather than being restricted to a specific method of data collection associated with either quantitative or qualitative research. Mixed method assists to answer questions that cannot be answered using quantitative and qualitative methods alone. Mixed method provides a link across the sometimes conflicting divide amongst qualitative and quantitative researchers. The approach promotes the use of multiple world-views or paradigms compared to the typical association of certain paradigms with qualitative or quantitative. Researchers are encouraged to think about a paradigm that might include both quantitative and qualitative research such as pragmatism.

In the same vein, mixed method has some limitations. Mixed method is more time consuming and more expensive as it may require more of resources, time and effort. Similarly, it requires that researchers find out about several methods and approaches and understand how they can be combined appropriately. Lastly, the researcher needs to be aware of the importance of thoroughness(rigour), validity, reliability and generalization that is required in the quantitative aspect of the research. Therefore, it is essential that the researcher has some basic skills in qualitative and quantitative research designs before embarking on mixed method approaches. A mixed method researcher should be familiar with general methods of gathering quantitative data such as using measurement instruments and extraction of themes within qualitative research.

3.6. The Sequential Mixed Methods Approach.

As stated earlier, methods are all the diverse tools and approaches that are being used by the researchers to facilitate the building up of knowledge. This is the process of the research, the route of collecting and analysing data (Johnson et al., 2007). In addressing the aims and objectives of this thesis, a Sequential Explanatory Design (also known as explanatory) was used. The sequential explanatory Mixed Method Design is the type of design that occurs in two different interactions. Mixed method research starts with the collection and analysis of quantitative data. The first phase quantitative collection is followed by the consequent collection and analysis of qualitative data. Notably, in the second stage, the qualitative phase is structured, in a pattern that follows the results of the first quantitative phase. Furthermore, the researcher then explains how the qualitative finding helps to elucidate the first quantitative results (Creswell and Plano Clark, 2011). The reason for collecting both quantitative and qualitative data is to present results by comparing, validating and corroborating the two forms of data to bring deeper insight into the problem under study (Creswell and Plano Clark, 2011).

Figure 3.2. Sequential design Adapted for the current study.

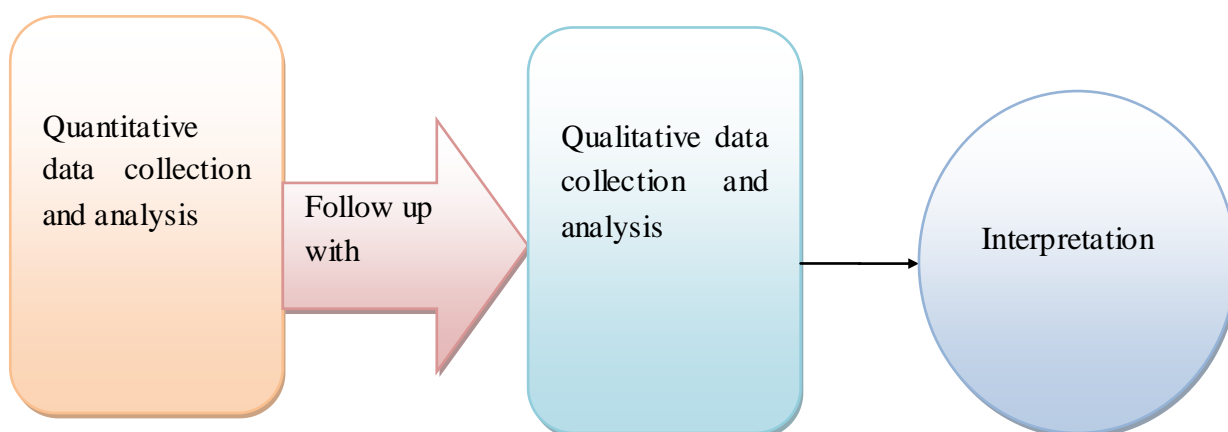


Source: *After* Creswell and Plano Clark (2007).

The sequential explanatory mixed method design has been previously addressed with different design names such as sequential model (Tashakkori and Teddlie, 1998),

sequential triangulation (Morse, 1991) and the iteration design (Green 2007). These names apply to the two phases of the sequential approach. However, Creswell and Plano Clark (2011) distinguished this by identifying which method is employed.

Figure 3.3. Diagram showing the Sequential Explanatory mixed method.



Source: Adapted from Creswell and Plano Clark, (2011).

3.6.1. Purpose and Rationale for Sequential Explanatory Mixed Method Designs.

The justification for this approach is that the quantitative data and their ensuing analysis offer a broad understanding of the research problem. While the qualitative data and analyses clarify and explain the statistical results from the quantitative findings, by exploring more in-depth the participants' views (Tashakkori and Teddlie 1998; Creswell 2003). The sequential explanatory design is appropriate when a researcher requires qualitative data to explain quantitative significant (or non-significant) findings or noteworthy results. Also, this design is used, when the researcher for instance, wants to form groups based on the findings from the quantitative phase and follow these up using qualitative research. It can also be adopted when participant characteristics from the results of the quantitative phase are used to purposefully sample during the qualitative phase (Morgan, 1998; Tashakkori and Teddlie 1998).

3.6.2. The Strengths and Limitations of the Sequential Explanatory Mixed Method Designs.

Creswell and Plano Clark (2011) state that Sequential Explanatory Mixed Method design has some strengths. Some of which are;

- ❖ This design usually starts with a robust quantitative focus making it attractive to quantitative researchers;
- ❖ The two-phase approach requires the researcher to carry out the two methods in different phases, making the research easier for a single researcher to conduct;
- ❖ The final report can be separated, with each section written separately. The qualitative section can be written following the quantitative report. Such segmentation makes it easy to write and helps readers to make a clear distinction between the approaches; and,
- ❖ This design lends itself to nascent approaches, where the second phase is designed based on what is learnt from the first phase (quantitative).

Despite the fact that this design is direct, there are still some challenges peculiar to it, some of which are;

- ❖ A long period of time is required for the implementation of two phases. The qualitative phase requires more time to execute than the quantitative phase, although in most cases fewer participants are needed in the former;
- ❖ It can be very challenging to obtain the institutional ethics approval for this design because the researcher initially may not be able to state how the participants will be recruited for the second phase until they have the first quantitative findings. However, this was addressed in the research by temporarily developing the qualitative phase for the ethics review board, while the participants were informed of the likelihood of contacting them again;
- ❖ Also, the researcher, needed to be clear which of the quantitative results required further expansion. Though decisions cannot be made until the quantitative phase is completed. The researcher can, however, select the significant findings; and strong predictors can be taken into consideration; and,
- ❖ Lastly, the researcher must confirm her sampling frame in the second phase including the approach for selecting participants.

3.6.3. Explanatory Design Variants.

There are two variants of the explanatory design. These are; the follow-up explanations variant and the participant selection variants.

The follow-up explanations variant is a prominent approach when using the explanatory design. Here, researcher priority is placed on the first phase (quantitative) and she uses the next qualitative phase to elaborate the quantitative findings. The follow-up variant was adopted in the study because the first phase of quantitative data collection used a survey instrument, while the second phase, employed face to face interviews which enabled in-depth information from the first phase to be gathered.

The second type of variant, the participant selection variants, is less common. This type of variant occurs when the researcher places preference on the second phase (qualitative) rather than the first phase (quantitative). This is used usually when a researcher focuses on examining a phenomenon qualitatively but still requires quantitative findings to identify and purposefully recruit the most suitable participants.

3.7. Longitudinal Sequential Mixed Method Designs.

The sequential mixed method was conducted longitudinally, where the researcher merges both the qualitative and quantitative approaches (Plano Clark et al., 2014). This is the kind of complex approach highlighted in the literature (Plano Clark, 2010). In longitudinal research, data are gathered on one or more variable for about two or more periods of time. This allows the measurement of change and to be able to evaluate the possible rationale for any change in adolescent sexual behaviour over the time period (Menard, 2008). A longitudinal study permits the analysis of time; allows the measurement of discrepancy or variation in a variable between time periods. The description of change patterns over time can be used determine the correlation of social events (Menard, 1991) and the detective effect, that is, associations between phenomena that are broadly distinct in time (Hakim, 1987). In the same vein, longitudinal research can possibly give comprehensive information about individual behaviour (Ruspini, 2000).

Similarly, Plano Clark et al, (2014) states that longitudinal approaches are correctly suited for investigating events or phenomena that change over time. These include; developmental processes, response to interventions, and societal patterns. Van Ness et al., (2011) and Plano Clark et al., (2014) indicated that in health research using social

science methods, three models are used for carrying out a longitudinal mixed methods study. These are prospective, retrospective and fully longitudinal models

- **Prospective:** for the prospective longitudinal mixed method, the qualitative data are collected one time only during the first time phase of the quantitative longitudinal strand to explore participants' views on the issue to be quantitatively measured;
- **Retrospective:** this is when qualitative data collected one time only at the last time phase of the quantitative longitudinal strand to explore participants' reminiscence of the issue that was quantitatively measured; and,
- **Fully longitudinal:** for the full longitudinal mixed method, both qualitative and quantitative data are collected at all-time phases.

However, Van Ness et al., (2011) and Plano Clark et al., (2014) further highlighted that longitudinal designs should be selected with caution. The reason being that they are more complex, particularly the fully longitudinal design. For instance, Van Ness, et al., (2011) mentioned that the fully longitudinal model is more expensive and could also present bias into statistical results if caution is not taken.

The prospective model of the longitudinal mixed method is used for this study, which gathered qualitative data in sync with the first quantitative time point. Afterwards, each dataset was separately analysed. However, the researcher highlights some themes that seem relevant to the quantitative findings which are referred to in the discussion chapter bringing together the comprehensive interpretations of the complexity of variables. The tracking code assigned to participants, for follow-up, helped to obtain information for the final data collection quantitative phase from the same group of respondents.

3.8 Further Methodological Considerations: Causal Adequacy in Surveys.

Causality in research is the concept that combines the response to the question '*why*': this has been a significant theory in philosophy (Costanzo and Dunstan, 2014). However, in the survey, the researcher tries to give reasons for the variances within the population surveyed by mapping the causal relationship of any events or behaviour. Marsh, (1979) affirmed that the process of testing causal hypotheses in survey research, which is fundamental to any attempt to theory building, is an oblique process of making a conclusion from the previous variance in populations by a thorough

method of assessment. In the same vein, the survey method will not 100 percent inform researchers what they desire to identify. Despite the fact that the survey can show an association, it cannot show causation. Similarly, the method may perhaps be ambiguous at times. This could lead the researcher to falsely assume that a specific variable performs a causal role. Furthermore, individuals sometimes change their attitudes to suit their behaviour, which is referred to as rationalizing. This may particularly be a dilemma in cross-sectional research as these variables are measured at the same time and as a result there cannot be different sorts of relationships among these variables (Noar, 2014).

Marsh, (1982) states that all survey research is cross-sectional that is, the research is conducted at one point in time, thus, the time-linked variable is measured. Although, longitudinal surveys can be used to resolve the issue of temporal ambiguities (Marsh, 1982 and Noar, 2014). Nevertheless, it's still not perfect. There is a long time interval before the behaviour takes place and the time interval will vary among individuals (Noar, 2014). Yet, if the temporality between attitudes and behaviour is perfect, causality remains elusive. This is because, there is no assurance that factors associated with the behaviour truly caused that behaviour to happen (Marsh, 1979; Marsh, 1982 and Noar, 2014). Therefore, neither cross-sectional nor longitudinal survey research by itself can determine causal mechanisms; however, the survey research method can be supported by the level at which the researcher can join it with other methods, such as the experimentation method. The latter is greatly effective at showing causal methods. Consequently, a researcher can identify variables that seem promising in survey research and then use them in experiments (Noar, 2014). Ecological fallacies are largely seen as an effect of the survey, when the descriptive characteristics of the group are attributed to individual members of the group. For instance, relating the attitude of a society or community to attitudes of the individual. This is not logically possible (Marsh, 1982).

3.9. Further Methodological Considerations: Researching Sensitive Topics.

Siebert and Stanley (1988) define socially sensitive research as that in which there are potential effects or implications, directly for the participants in the research or for the category of individuals characterized by the research. While Siebert and Stanley (1988) focus on the effect of sensitive research, Farberrow (1963) likens sensitive topics to

the aspects of social life bounded by taboo. The sensitivity of a topic is not a gauge of either its social or its theoretical implication, however, in most cases, research on sensitive topics tackle some of society's most pressing issues and policy questions (Lee, 1993). Researching sensitive issues is important, particularly because it reflects the darker corners of society (Rock, 1973 and Lee, 1993). Lee and Renzetti, (1990), also highlighted that the investigation of the sensitive topic often brings into the research process realities that are less commonly found in another kind of study. Although due to the threat of sensitive topics, it faces challenging methodological and technical dilemmas emerges. Access to participants can be challenging, and where research topics are very personal, the relationship between the researcher and the researched can become charged with mistrust, camouflage and dissimulation (Lee, 1993). Which affect the availability and quality of data and subsequently levels of reliability and validity.

In most cases, people feel uncomfortable when asked to discuss or talk about sexually related matters. Sexual matters or sex talk can be viewed as immoral, embarrassing and private although the level of unwillingness to disclose may vary among individuals, communities, and cultures (Imaledo et al., 2012). When researching sensitive topics, the participants need to feel comfortable and relaxed to be able to communicate (Odutolu, et al., 2006; Imaledo, et al., 2012). For instance, in Nigeria, talking or discussing sex or sexual activities is still frowned upon. Many Nigerians feel embarrassed and uncomfortable talking about sexually related matters (Odutolu, et al., 2006).

The researcher must adopt approaches that will enhance eliciting true or real information rather than normative responses. An approach which has been found to be helpful is using projection (Greenhalgh et al., 1998). This was developed to explore highly sensitives such as sexual behaviour, abuse or rape. In this type of approach, respondents are asked to remark on the view or experiences of an imaginary person or their friend who has been presumed to be like them and possess similar features such as age and gender. Projection techniques describe and discuss the attitude and behaviour of other people therefore, respondents may be less likely to present what they perceive as 'acceptable' responses and offer more personal opinion.

3.10. Research Design

(a) Data collection.

The validating quantitative model was used for the collection of data. This model validates and expands the quantitative findings from a survey with some open-ended qualitative questions (see fig3.3) (Creswell and Plano Clark 2007). The procedures used for data collection in this study are; sampling procedure, ethical approval (obtaining permission and consent); collecting of information quantitatively (survey) and qualitatively (face to face interviews), recoding of the information collected and managing the procedures, that is, addressing any data collections issues that may arise.

This study began with a focused quantitative, cross-sectional survey in order to generalize results to a population and then, further focus on the qualitative case study in the second phase using an open-ended interview to collect detailed views from selected participants. The reason for combining both quantitative and qualitative data is to better understand the research problem by converging both quantitative (broad numeric trends) and qualitative (detailed views) data. Notably, a prospective longitudinal sequential data collection was conducted, that is, a repeated measure of both the survey instrument (quantitative) and audiotape face to face interview (qualitative) was used to collect data from respondents over a period of 6 months. Repeated measures have undisputed advantages in terms of the quality of both the data and the relationship which can be established with respondents (Lee, 1993).

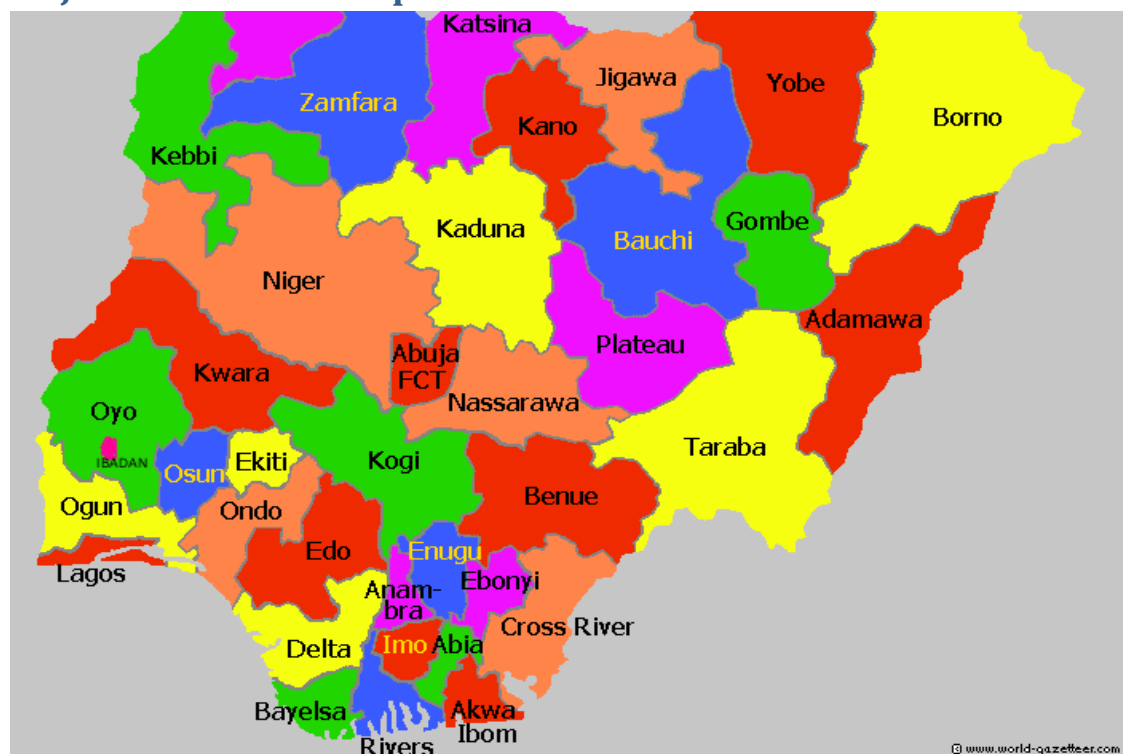
(b) Sampling.

To address a research question or hypothesis, the researcher engages in a sampling procedure which entails identifying the location or research sites for the study, determining the participants who will provide the data and how they will be sampled and recruited into the study, the number of participants needed to answer the research questions and the procedure of participant recruitment (Creswell and Plano Clark, 2011). Likewise, these steps in sampling apply to both the quantitative and qualitative research, though there are basic dis-similarities in how they are addressed. The first procedure was to identify the research sites.

For this research, the two research sites were selected (a public and private) secondary school in Ibadan, Oyo State, Nigeria. These schools were selected purposively because

of the researcher's accessibility to the school sites, as well as the researcher's personal (base) knowledge starting from her lived experiences. Oyo State covers an area of 28,454 km² and a population of approximately 5.6 million at the 2006 census (NDHS, 2009). Oyo state has a population of 1,252,424 of 10-19 years and with 44 % aged 12-16 years attending school. The two research sites identified as school A and school B are located in Ibadan. School A is a private school while school B is a public school. These school types were selected in order to enhance comparism and to investigate differences in adolescent sexual development between the two schools. The two research sites were used to collect data both quantitatively and qualitatively.

Figure 3.4. Map of Nigeria showing Ibadan in relation to other major cities and the capital.



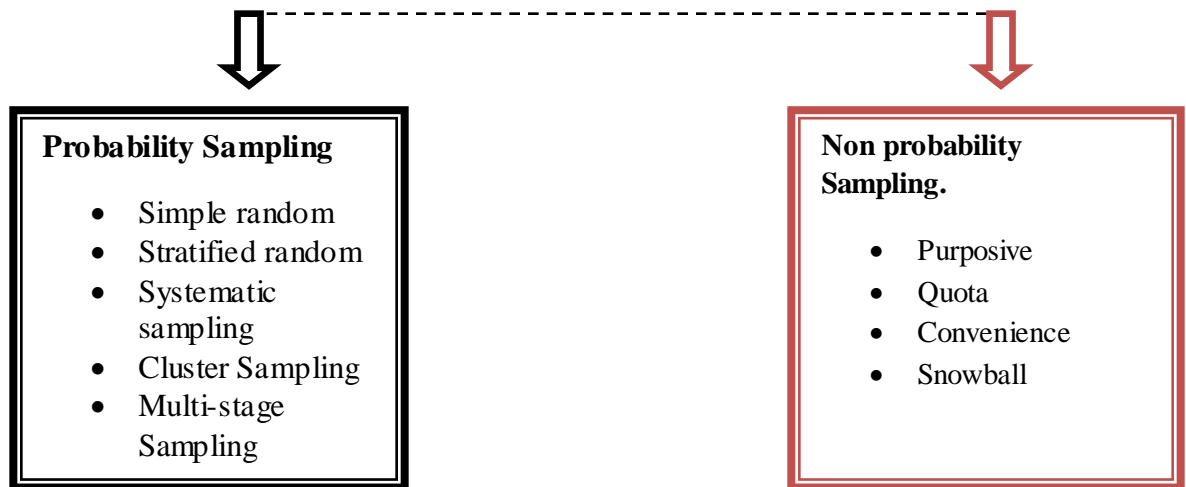
Source: Bakare (2015).

The way a researcher is perceived by the participants and gatekeeper may affect how the study is conducted and the quality of data collected (Teddle and Tashakkori, 2009). The researcher needs to gain access by establishing trust and developing a

rapport with the gatekeepers and participants. There is however a need for caution against over involvement or over-familiarity, which may inhibit objectivity which might introduce bias into the study (Minichiello, Aroni and Hays, 1995). Before the start of the study, the researcher developed a rapport and became acquainted with the gatekeepers and informed them about the hoped for significance of the study (Teddlie and Tashakkori, 2009). The researcher was given access to the research sites through permission from the gatekeepers (the principal or head) of both schools. The school principal is seen as having the authority to permit the participation of in-school adolescents in research. In this study, the researcher sought both oral and written consent from the principal and head teachers of the selected schools, which is a standard convention in Nigeria. A letter was sent to them prior to the first visit; an appointment was made to talk about the study. During the visit, the aim of the study was stated and the research process was described. They gave both oral and written permission to go ahead and the researcher was introduced to other teachers and counsellors who had responsibility for sex education in the schools. The second process was to identify the potential participants for the study for both the quantitative and qualitative phases of the research. The participants for this study were students from the selected research sites. However, the participants for this study were recruited using a using a sampling strategy.

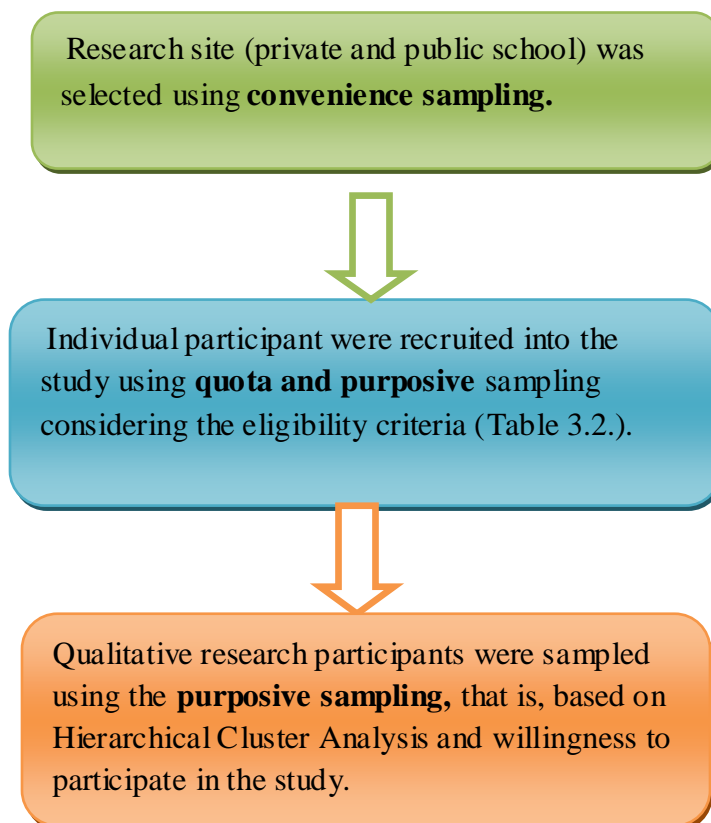
Sampling entails selecting units of analysis (for example, people, group settings and artefacts) in a way that augments the researcher's capacity to address research questions stated in a study (Tashakkori and Teddlie, 2003; Teddlie and Tashakkori, 2009). The unit of analysis denotes the individual or group cases through which the researcher wants to reveal information about when the research has concluded, thus, this is the centre of all data collection attempts (Teddlie and Tashakkori, 2009). In addition, Creswell (2009) and Teddlie and Tashakkori, (2009) state that there are two basic types of sampling methods in research, these include; probability and non probability (Teddlie and Tashakkori, 2009). The non probability sampling was adopted for this study.

Figure 3.5. Potential sampling design.



Source: Teddlie and Tashakkori, (2009)

Figure 3.6. Flow chart showing the sampling process for this study.



Teddlie and Tashakkori, (2009) state that non-probability sampling is the type of sampling that does not involve random selection, that is, non-probability samples cannot depend upon the rationale of probability theory. Also, with non-probability samples, we may or may not represent the population well, and it will often be difficult to know whether the sample is representative. Non probability has been chosen because it permits researchers to use the participants whom the researcher has access to. From the Figure 3.5 above non probability sampling includes; purposive, quota, convenience and snowball approach. Therefore a quantitative, numerically-meaningful sample was selected from two school sites to which the researcher had access using convenience sampling (Creswell, 2009). The participants for this study may not be representative of the wide population or parts of the population or represent a portion of the population; however, the outcomes of the study can be generalizable to school-aged groups in similar states in Nigeria. The researcher is keen to ensure that the number of participants is sufficient to inform the analysis. Therefore a power calculation was performed based on the assumption of the number of participants that would be required in order to allow generalization. For the qualitative these individual participants were recruited from various adolescent classes using quota (selecting people non-randomly according to some fixed characteristic such as age, class and gender) and convenience sampling with regards to the eligibility criteria in Table 3.4.

[1] Calculation of Total Population Size

Oyo state Population 10-14 = 656,500

Oyo state Population 15-19 = 595,924

Oyo state Population 10-19 = 1,252,424

(Estimated) population of Oyo State 12-16 years old = 688,800

% attending school aged 12-17 = 44%

(Estimated) population of Oyo State 12-16 years old attending school = 303,100

[2] Using Sample Size calculation tool at: <http://www.surveysystem.com/sscalc.htm>

Assuming;

- 95% Confidence Level.
- Confidence Interval of 10.
- Total population size of 303,100

Sample size needed = 96

+ 25% margin to allow for attrition = 120.

Allowing for an attrition rate of 25% the estimated sample size N=121 respondents in total were recruited. Hierarchical Cluster Analysis of key variables from the first set of survey responses was used to identify a typology of patterns of sexual development. The final survey question indicated that respondents should tick a box if they are willing to be interviewed face-face by the researcher.

In the qualitative research, the researcher phase purposefully selected participants from the research sites who could give the required information. Purposive sampling in qualitative research is when researcher deliberately recruits participants who have experienced the basic phenomenon or the main concept events being investigated (Creswell, 2009; Teddlie and Tashakkori, 2009). In this study, a purposive sample (sample with a purpose in mind), based on these clusters and employing the principles of maximum variation sampling was undertaken to yield an estimated qualitative sample size of N=10. The researcher purposefully recruited a small number of participants who could provide in-depth information and shed more light on the phenomenon being studied from the participants that were recruited for the quantitative phase. This is because the idea of qualitative phase is not to generalise from the sample as in the quantitative research but to provide an in-depth view from a few participants. In the same vein, Creswell (2013) suggested that when a case is being studied a small number of participants can be used such as 4 to 10. Thus, a qualitative sample size depends on the research question and the type of qualitative approach used.

(c). Inclusion and exclusion criteria.

The inclusion criteria for this study are in-school adolescents aged 12-16years in Ibadan, Oyo State, Nigeria. This age band was chosen because this is the middle age where all the secondary sexual characteristics are manifested and where sexual

experimentation and adventure are more likely. Adolescents who do not fit into this criterion were excluded.

Table 3.4. The Inclusion and exclusion criteria for selection of participants.

Essential sampling criteria.	
Inclusion Criteria	Exclusion Criteria
In-school adolescent	Out of school adolescent
Ages (12-16years)	Adolescents under age 12 or over 16 years
Who lives in Ibadan, Oyo state	Living in another state
Adolescents who have indicated willingness to take part in the research via return of reply slip.	
Adolescents who have consented to take part and minors with assents.	Adolescents who did not consent or minors without assent.
Male and Female	
Other considerations (desirable when considering maximum variation).	
Diverse religion	
Rural/urban residents	
Public /private schools	
Various Ethnic backgrounds	

(d). Research Governance: Gaining Permissions and Approvals

It is required of the researcher to seek permission before collecting data from individuals and sites of study. In most cases, permission is often sought from various individuals and levels of organisations, such as, gatekeepers in charge of the sites from which participants will be recruited and from persons providing the data (and for the assent, permission is sought from their representatives, usually their parent or guardian) and from the institutional review boards (IRBs). These boards have been established to protect the rights of individuals participating in research studies and to evaluate the potential risk and harms of the proposed studies to the participants (Creswell and Plano Clark, 2011). The researcher first sought ethical approval from

the Institutional Review Board of Northumbria university (where the research is being supervised), then afterwards, the research gained permission from the gatekeepers (principal or head of school) to access the site, and lastly, informed consent from participants themselves and parental assents for minors was obtained before the data collection began.

The data were collected from adolescents from both junior and senior secondary schools in Ibadan, Oyo State, Nigeria, from one private school and one public school. In Nigeria, Junior Secondary School includes (JSS 1, 2, and 3) while the Senior Secondary School includes (SSS 1, 2 and 3). Furthermore, in Nigeria, secondary school starts from JSS1 (grade 7 (age 12–13) until SSS3 (grade 12 (age 17–18). Most students start at the age of 10 or 11 and finish at 16 or 17 (United Nations Educational, Scientific and Cultural Organisation (UNESCO), (1997). This has been chosen in order to have a baseline for comparison amongst adolescents from a different type of school. This research sought to achieve information regarding variety in socio-economic background of participants, prevailing cultural norms, ethnicity, religion and religiosity, geographical location (urban/rural), in order to inform the analysis. Both schools had mixed gender students, and the major differences between each school were the location, school type, size, location and socioeconomic status of students in each school.

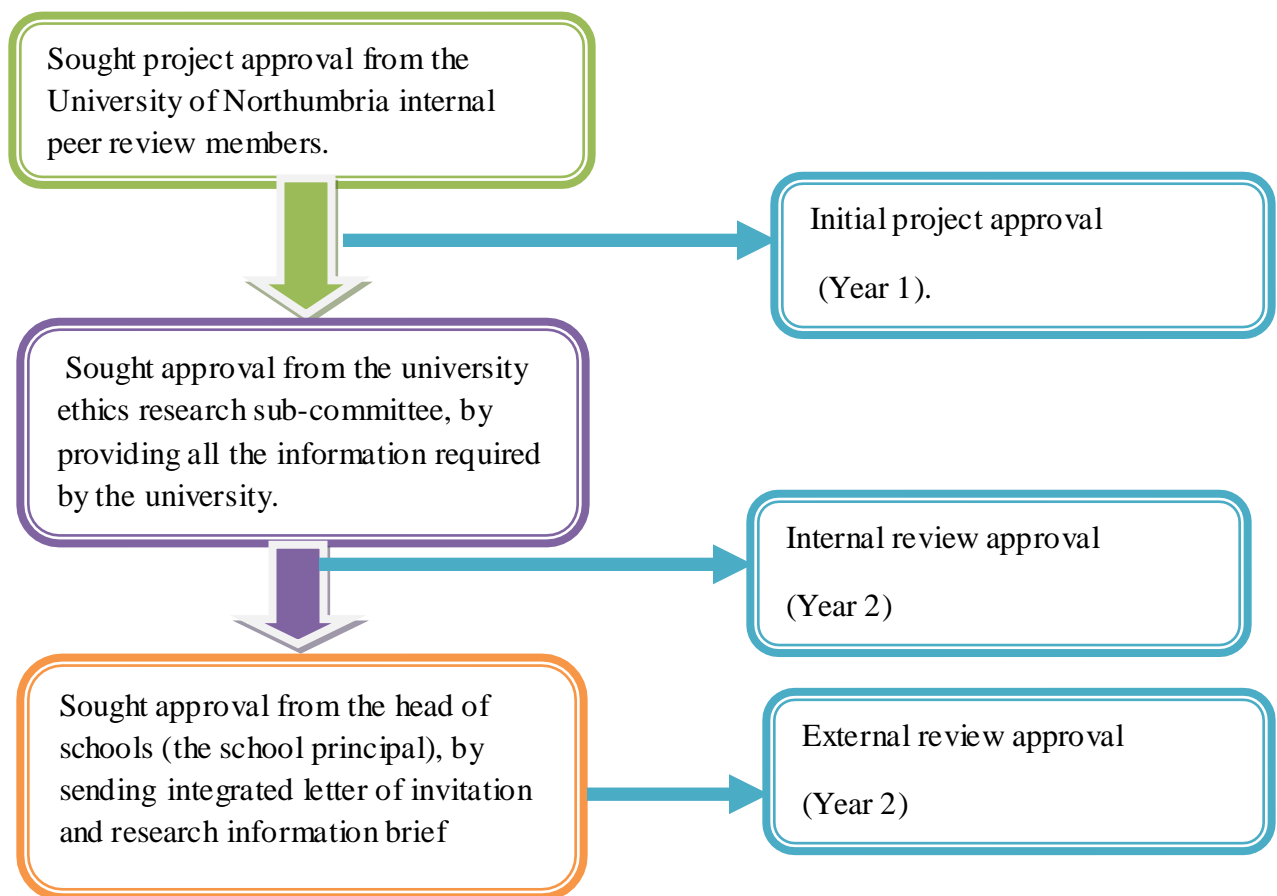
Table 3.5. The differences between school A and school B.

School A	School B
<ul style="list-style-type: none">• A private secondary school.• Located in an urban area, in Ibadan, Oyo state.• Students who attend usually come from both middle and very high-income families around the school and other communities nearby.• The school is similar in size to school B.• The number of secondary students in the school is in the thousands.• The school provides facilities for both boarding and day students.• The school has various branches in Ibadan. However, only one branch of the school was selected for data collection.	<ul style="list-style-type: none">• A public secondary school.• Located in a rural area, in Ibadan, Oyo state.• Most students who attend are usually from low-income families who live around the school and from close-by villages who do not have a government secondary school within their community.• The school is similar in size to school A and the number of students in the school is in the thousands.• The school provides facilities for day students only.

(i) Ethical Approval.

Excluding adolescents from research has no clear ethical rationale. The numerous reproductive health issues for adolescents cannot be addressed without their involvement. Data on adolescent health is crucial to establish evidence-based policies and programme that support their health and well-being (Folayan et al., 2015). The flow diagram below shows the ethical processes and actions for this research.

Figure 3.7. Flow diagram of the ethical processes for this study.



As highlighted by Corden and Miller, (2007) research relating to human participants and their anonymity poses numerous ethical issues. Some of which are participant recruitment, seeking and obtaining consent, confidentiality, data protection and management, potential harm, preventing coercion and distress. In the same vein, Lofland et al., (2006) pointed out that it is the responsibility of researchers to secure the confidentiality of research participants. The research ethics processes were helpful and necessary because the research involves human subjects acknowledging the benefits and harms that may arise for both participants and researcher. In this study the benefits outweigh the potential harms. Some of the risks the researcher and participants may face and the ways they were addressed are:

- **The potential risk to Researcher:** During the collection of data, the researcher faced the risks of relating with a vulnerable population (adolescents) and from whom sensitive information was to be collected. However, this was addressed by obtaining the required ethical approvals. The long duration of data collection particularly the qualitative part, may expose the researcher to fatigue. However, the researcher managed her energy levels by taking breaks during of data collection.

- **The potential risk to Respondents:** Issues of trust and confidentiality energy regarding information provided by participants. Although, this study was not life threatening neither did it involve any clinical intervention; ethics and governance were appropriately considered. The participants felt uncomfortable discussing their personal details, particularly asking questions on sensitive topics. Their discomfort was managed by providing debriefing information before the start of the research. The criteria of the American Anthropological Association (1967) on protecting the anonymity of the participants by assigning numbers or aliases to individuals were followed. For example, in the transcripts, the researcher was labelled R and each participant was assigned a number P1, P2 etc. For the survey part of the research, participants were told not to include their names on the questionnaire. In the same vein, no one was forced to participate in the research and participants who did not wish to continue with the survey or interview were allowed to withdraw from the study, without any form of penalty. Another potential risk may come from the location for data collection. This was managed by making sure that the venue selected for data collection was a well-known location for all participants (one of the biggest classrooms in school) which was easily accessible with enough privacy and limited stress. Similarly, some participants' experienced fatigue due to the long duration of the data collection process particularly the interview phase of the research. This was addressed by making sure participants took frequent breaks. Some questions triggered past incidences or behaviours that were unpleasant for the respondent particularly during the interviews. The researcher being aware of this possibility was sensitive enough to recognise this, provided necessary support and enabled the participant to take more time or a break if necessary. In the eventuality, no participants became upset during the course of the interviews.

(ii) Informed consent.

Informed consent is an important obligation for research participation. It is obtained through a dialogue that respects each potential participant and creates an opportunity for probing (Folayan et al., 2015). Informed consent must be voluntarily given and void of unnecessary incentive and coercion, this is the ethical obligation. It is also characterized as the ethics of esteem for persons (US Department of Health and Human Services, 1979). It recognizes that individuals with ability have the right to make independent decisions. Although the ability to independently make decisions

differs significantly across cultures and stages of adolescence. It is, however, imperative to acknowledge that the involvement of parents or guardians in the process of informed consent may threaten the independent decision-making of the adolescent, and likely compromise the confidential or private information about the adolescent (Folayan et al., 2015). Informed consent for this study comprised two types. They were informed consent from parents or guardian and participants (adolescents) themselves. Informed consents from parents are essential because the Nigeria Constitution and section 277 of the 2003 Child Right Act defines a child (minor) as a person less than 18years of age. This, therefore, depicts that persons under the age of 18years, have less legal ability and are susceptible to making decisions that are not entirely proficient. Thus, they therefore require a legally authorized surrogate decision maker which is a family member in most cases to act or respond on their behalf (Folayan et al., 2015). However, a convention supported by the National Health Research Ethics Committee is that adolescents, between the ages of 12 to17 years need to give assent while their parents can give consent for them to participate in research (National Health Research Ethics Committee of Nigeria, 2007).

Parental consent with that of the adolescent is a vital concern. Within the Nigerian legal context, parental consent and approval for adolescents below the age of 16 years are required before participation in any kind of research, excluding mature minors. Mature minors are young persons who have not attained adulthood, as the laws define, but has attained a maturity level such that he/she can relate on an adult level for specific activities or purposes (Folayan et al., 2015).

Table3.6. The Nigerian context of consent and approval for research participation.

Age	Parental consent	Adolescents assent
12years+ (married)	X	✓
12-15years	✓	✓
16years +	X	✓

Unfortunately, there is a legal problem of who gives parental consent, as some participants may not be living with their parents and the caregiver they live with may not be recognised legally. For instance, The 2013 NDHS showed that 15.9% (both from rural and urban) of those under the age of 18 years were not living with biological parents (NPC, 2014). In these situations, surrogate caregivers provided the required consent. The cultural custom in Nigeria states that whoever an adolescent is living with at a particular time is responsible for their welfare and thus, accountable for them (Folayan et al., 2015). Another, further challenge for parental consent, is that, in many communities in Nigeria, parents usually will want to converse with either their families or esteemed people in their community before providing consent for an adolescent to participate in sexual and reproductive health research (Folayan et al., 2015).. This is especially likely to happen if the study entails discussing sex with young people, in a society where sexual discussions with adolescents are normally a taboo. However, this challenge was addressed by sending a complete research information brief along with informed consent slips to the head of school who was then able to assist in disseminating the required information accordingly and appropriately.

In obtaining informed consent from participants for this study, an information pack which includes, research information brief, reply slip, informed consent (See Appendix 4 to 8) were designed and given to participants. Parents/caregivers were given a period of one week in order to consider the invitation for their child to participate in the research. Potential participants were given one week to read through the information about the study, decide or even discuss with another significant person and to provide formal written consent before the research commenced. The contact number and email address of the principal supervisor and that of the researcher was provided in the research information pack, should participants require additional information or have any questions about participation or have any form of concern. Also, in every interview, verbal consent was obtained and it was made clear to participants that they were not under any obligation and they would have the right to opt out at any point in time. It was also made clear that withdrawal from the study would have no impact or bring any sanction from school authority or teacher especially if they felt their privacy was been probed or felt distressed about the questions being asked (Robson, 2002). At this stage, their details would be removed

from the study; nevertheless, any information already obtained was used in the data analysis as mentioned in the information pack given earlier to them.

(iii) Confidentiality, Anonymity and Data protection.

Ary et al., (2007) states that there are two types of privacy issue which are; confidentiality and anonymity. Confidentiality ascribes to the process of safeguarding the information collected from the participants during a study, as private or secret. While anonymity denotes the process of protecting the identity of participants in a study (Ary et al., 2007).

Confidentiality and anonymity are considered crucial for the enrolment of adolescents in research (Stanford et al., 2003). It is, therefore, a researcher's obligation to protect the confidentiality of the personal identifiable information for participants. However, in a situation where parents support or consent to adolescent participation, the researchers maybe required to strike a balance between parental involvement and the need to protect the privacy and confidentiality of the adolescent particularly regarding sex and sexuality (Folayan et al., 2014). Adolescents usually do not want their parents to be aware of their sexual activities. Although the parent or guardian may have approved an adolescent's engagement in research, the encumbrance is on the researchers to keep confidential all information provided by the adolescents and therefore the principles of ethics demands that the researcher respects the participant's right to confidentiality and independence (Folayan et al., 2015). Confidentiality and data protection were maintained with respect to the Data Protection Act 1998. The raw data will be securely stored at Northumbria University for a period of 5 years in accordance with the terms of the UK Data Protection Act (1998). Electronic data and paper information were encoded, anonymised and password protected to ensure privacy and confidentiality of respondent. After, coding the raw data containing the personal information of respondents, they were then identified by codes and aliases. Information was released to any third party without the consent of the respondents. All data and information collected from the respondents from the research sites were properly stored in a safe box, securely locked, transported and managed appropriately by the researcher. Folayan et al., (2015) state that the assertion of data security is likely to enhance adolescents' participation in sexual and reproductive health research. Notably, confidentiality could be bridged when a potential harm is involved. This was

made clear in the information pack given to participants. During the course of a survey or interview if acts or information, that may seem misleading or cause potential harm to the participant or others, the researcher is under an obligation to report these.

(e). Data Collection.

In mixed method research, there are various ways of collecting quantitative and qualitative data. These processes of collecting information are; A) Quantitative data which is collected using closed-ended questions, researcher makes use of questionnaire based on prearranged response scales or Likert categories. B) Qualitative data, which is collected using open-ended questions. During the qualitative phase, the data collected are more extensive than during the quantitative element. In addition, qualitative data are collected using two broad methods, open-ended interview (which includes face to face interview, phone interview, email interview and focus group discussion (FGD)) while the other is Open-ended observation, documents (public or private document) and audiovisual material (this includes; videotapes, photographs sounds) (Creswell and Plano Clark, 2011; Creswell, 2013). Many quantitative researchers collect quantitative data using instruments that measure participants' performance (for example; aptitude tests) or attitudes (Creswell and Plano Clark, 2011; Creswell, 2013;).

(i). The Survey Instrument.

A customized version of the WHO knowledge questionnaire was modified and used. Only the socio-demographic (such as class of respondent, occupation of parents, where participant lives) aspects of the questionnaire was modified to suit the research purpose. Only the questions relevant to the study were selected. Also, some questions were excluded due to the cultural sensitivity that might be involved (for example; questions that are not heterosexually orientated). The adapted questionnaire is shown in Appendix 10. The adapted survey-interview instrument is made up of 17 pages of 85-item self-completion paper and pen instrument which comprise of yes/no, Likert scale and open-ended questions. The instruments covered topics like knowledge of STIs, safer sex, condom use, awareness of sexual and reproductive health services, communicating about sex, reproductive health knowledge and sexual risk-taking behaviour.

Evidence-based illustrative core instruments for in-depth interview-surveys from WHO (see Cleland et al., 2001) were reviewed, modified and adapted to collect

information from in-school adolescents in the few selected sample schools (See Appendix 9a and 9b). This seems to be appropriate for this study, because, it is an instrument for both survey and interview. The instrument's questions corroborate the research questions posed and thus it is expected that it will elicit the required information.

The WHO illustrative instrument for interview-surveys, were designed by Cleland and colleagues, (Cleland, et al., 2001) and they aimed to document the knowledge, beliefs, behaviour and outcomes for young people (that is both female and males who have attained puberty, but who have not married or in a long-term partnership) regarding sexual and reproductive health. Sexual and reproductive health needs, concerns emerge and the findings can offer guidance for intervention or advocacy. The investigation covers a broad range of topics some of which are; contraception, unwanted pregnancy and their consequences, factors enhancing or restricting safe sex, gender roles, sexual and reproductive health needs. This sexual inventory was designed to be suitable to a broad range of young people both in and out of school, those with or without sexual experience, working within or outside the home or not working at all. According to the author, researchers from several countries such as China, India, Kenya, Nigeria and Tanzania have adopted this instrument in the course of their research and they have given positive feedback as regards efficacy. Notably, the author clearly stated *“that instrument is anticipated to be no more than a preliminary point for researchers, desiring to study the sexual and reproductive health of young people. Also, it should be tailored to local situations and research precedence and wherever feasible, it should be used in concurrence with the qualitative approach of investigation”* (Cleland et al., 2001; pp.2). For this instrument to be suitable for adolescents in Nigeria modification due to cultural variance, belief systems, available services, research permissions concern was needed. For the purpose of this research, some questions from the Cleland and colleagues sexual inventory were omitted and the applicable ones to this study were customized.

(ii). Pilot Testing (Evaluating questions and questionnaires).

When a questionnaire has been developed every question and the questionnaire itself as a whole is evaluated rigorously before finally administering it to the respondents. The process of evaluating the questionnaire is called pilot testing or sometimes called

pre-test (de Vaus, 2002). During the process of piloting four major things were carefully checked for, these were: the flow of the questions asked; the questions skipped; the time used to fill out the questionnaire and the potential respondent interest and attention in completing the questionnaire. Three stages were used to pilot test this questionnaire among 10 in school adolescents who were not going to participate in the main research.

First, the questions from the modified and adapted version survey questions were evaluated; this tested respondents' interpretation of the questions being asked and to examine if the range of responses is adequate. In this phase, the respondents were informed that the questions were being developed and they were being asked to help improve them. All respondents were given the same wording for the same question.

The second stage was done by administering the complete survey questionnaire, which is often longer than the final version of the survey questionnaire. This stage enhanced a further evaluation of individual items and questionnaire as a whole. The responses were analysed and their comments were used to improve the survey instrument.

The third stage was the polishing phase of the pilot test. The information acquired in stage two was used to revise and reorder and shorten the questionnaire where necessary. This is to ensure that the final layout is clear enough for the respondents; some points that were unclear were corrected before being given to the participants.

(iii). Quantitative Data Collection – Baseline.

For the first phase of the data collection (quantitative part of the mixed method approach), a close ended knowledge questionnaire was administered to adolescents who fitted the inclusion criteria. The use of a questionnaire has some advantages. Questionnaires are good survey instruments because they offer broad information about a phenomenon, they are easier to administer, and allow large samples to be investigated (Gratton and Jones, 2010). Another advantage is that they allow a potential reduction in bias, with a properly designed instrument, there is little or no chance to introduce bias into the result as may be in the case of the interview (Bloch, 2004). The pattern of asking is more consistent and the researcher may not need to be present, respondents are asked the same questions in the same order. In contrast to an interview where the presence of the researcher may prevent the respondent from giving accurate or reliable information (Bloch, 2004). A well-structured questionnaire

provides numeric data that can be calculated, compared among groups or individuals, statistically tested and be easily converted into tables and charts. There is also more time for the respondent to fill in the questionnaire at their own convenience, particularly they can go back to the questionnaire if they recall any information later (Gratton and Jones, 2010). The stated strength of a self-completion questionnaire is its suitability to collect information about adolescents' knowledge on adolescent sexual behaviour using structured questions.

However, there are some disadvantages of using questionnaires. Answers are influenced by the characteristics of the participant for example, their memory, knowledge, experience, motivation, and personality. There are increased chances that social desirability bias may occur as people tend to respond in ways that will portray them positively. There is no opportunity to probe using a questionnaire especially a close-ended one (Robson, 2002). Another disadvantage is a potential low response rate, particularly on sensitive issues. The reliability of the study could be jeopardised and there is no control over who completes the questionnaire. Participants may decide not to complete a questionnaire or they may decide to give it to a friend to complete for them, thus, biasing the results (Gratton and Jones, 2010). However, the strength of the in-depth interview, the second phase of data collection, complements the weaknesses of the questionnaire.

The corrected, modified questionnaire was used in samples in selected schools in the English language. This is the official language used to teach in schools in Nigeria. The statistical validity and reliability of the modified version of the questionnaire were assessed by conducting a pilot test among adolescents who were not taking part in the main study. This is to make sure that the participants were clear about the questions asked. Although, the WHO questionnaire has a standard validity and reliability. Not only that, this is an evidenced-based survey and in-depth interview instrument that have been adopted in a similar setting and proven to be effective and efficient.

Participants who consent to take part in the study were recruited from various classes and conveyed together in a big class in each school. About 140 participants were recruited (from a total of about 2000 students from the two schools) into the study initially, both from the private and public schools, in order to give room for attrition

and incomplete questionnaires. However, a total, of 121 completed questionnaires were returned and analysed.

Questionnaires were brought to the class where participants from various classes within the age band of the research were assembled. The selected schools chose the date to deliver the questionnaires to participants. One of the school teachers was assigned by the school principal to work with me so as to introduce me to the students and assist in organising them. The assigned teacher was informed that answering the questionnaire was confidential and anonymous. Each of the questionnaires contained a tracking code; this is to enhance follow up of the participants as this is a longitudinal study. Each participant received the entire 4 section 17 page questionnaire. The returned questionnaires were anonymously answered and the participants could return a blank questionnaire. The same survey instrument was re-administered at baseline + 6 months.

(iv). Qualitative Data Collection.

For the second phase of the data collection (qualitative part of the mixed method approach), a semi-structured face to face interview was carried out with 10 adolescents both male and female, who fitted the inclusion criteria and who had participated in the first phase of quantitative data collection. An audio digital recorder was used during each interview. A Hierarchical Cluster Analysis of Phase I survey data was undertaken in order to theoretically inform the interviewee selection. Participants for this phase of the study were then selected based upon [a] location within each identified cluster (Home-oriented / Peer-Oriented); and [b] a prior indication of willingness to take part in face to face interviews. A customized version of the WHO in-depth interview questionnaire was adapted, modified developed and guided the structure of the interview. Similarly, the interview questions were selected and developed based on the researcher's own knowledge about cultural norms the participants. The use of semi-structured face to face interview has some advantages. Firstly, face to face interviews allowed for concurrent communication in time and place compared to the other interview methods. Also, face to face interviews enable the researcher to act upon participants' social cues (Opdenakker, 2006). Secondly, there is an assurance about who participates and answers the questions. Thirdly, the interviewer can assist the participant's comprehension and clarify questions (Becker and UBA-Team, 2011). Fourthly, it allows the use of various approaches, including

open-ended questions, visual aids, answer scales, audio recording with the permission of participants, etc. (Opdenakker, 2006; Becker and UBA-Team, 2011). Fifthly, longer interviews are possible where there is increased reluctance to end the interview and the respondent may want to talk further particularly when in their home (Becker and UBA-Team, 2011). Finally, further questions can be used to probe participants to collect detailed information, similarly, body language and reactions can help to guide the interviewer (Opdenakker, 2006; Becker and UBA-Team, 2011). Thus research validity can be practically checked (Becker and UBA-Team, 2011). Correspondingly, Minichiello et al., (1995) suggested that face to face interaction helps to enhance increased response rate more than other survey methods.

However, some limitations of face to face interview have been identified, some of which are; face to face interviews involves time, as participants may have to recall past events, it might also cost money for transportation as the participant may not be prepared on the first visit (Creswell, 2013). Another limitation is the ‘stage fright’ of interviewers and respondents. There is also a risk of counseling during the interview, or unknowingly manipulate respondents, who might feel uncomfortable about the anonymity of their responses (Creswell, 2013). Validity of their responses, especially on sensitive questions may be affected (Becker and UBA-Team, 2011). To overcome some of these limitations, respondents were assured of confidentiality and anonymity. The interviews were conducted in a conducive and friendly environment, participants were made to feel relaxed and comfortable and proper introductions were carried out. Face to face interviews involve personal contact and may take longer. Tiredness or impatience may also influence or bias the quality of answer (de Vaus, 2002). Respondents were allowed to take a break whenever necessary in order to prevent fatigue.

In-depth interviewing according to Minichiello et al., (1995) is a suitable method of gaining access to the individual’s world and interpretation. An interview protocol was used by the researcher, to record vital data on the time, day and place of the interview. An interview guide (see appendix 9b) was also developed around a list of topics from the WHO illustrative instruments for interview-surveys without fixed wording or fixed ordering of questions. The content of the interview concentrated on the issues to be addressed which gave room for discussion and greater flexibility. The interviews for this study were recorded with an audio digital recorder. Audio recording is a method

of collecting a comprehensive and accurate record of interview. It gives room for greater rapport by allowing a more natural conversational style (Creswell, 2013). Similarly, it allows the interviewer to be freely attentive and thoughtful during the interview without distraction and after the interview, the raw data remains recorded and can be analyzed by the researcher with time to fully concentrate (Minichiello et al., 1995; Creswell, 2013). Correspondingly Schwart and Jacobs (1979) indicated that audio recording gives room for greater in-depth analysis as the informal information and the ambiguity of response is still accessible to the researcher.

A total of number 13 participants (from both private and public school) were interviewed initially, however, due to a technical error the researcher was able to transcribe and interpret only 10 interviews. The emerging themes from the transcribed interview were identified using the thematic analysis method (Braun, and Clarke, 2006).

Despite the strengths of audio recorder, there are weaknesses. Firstly, audio recordings of respondents' views may make them vulnerable and fear that researcher or a third party might be able to match their voice to identify them. However, in this study, the participants during the interview were told not to disclose their names as aliases were assigned to each participant to protect their anonymity. Furthermore, the audio recordings were protected from any third party (Minichiello, Aroni and Hays, 1995). Another basic concern of audio recording is that participants may feel their view might be mis-interpreted when transcribed and they will not be there to interject, correct or change such interpretation.

(v). Quantitative Data Collection – Baseline + 6 months.

A longitudinal follow up of six months was observed, the survey instrument used in phase one of quantitative research was used to collect data for phase two. This is to examine if there has been any change in participants, behaviour, attitude and perception about sexually related matters over a period of time. The tracking code and list of names of the participants was used to identify respondents for phase two. However, from the 121 participants from the phase one data collection, a total number of 18 students were lost to follow up. These are the students that have either left the school or have been absent from school; 10 students from the public school and 8 students from the private school respectively. Overall, a total number of 103 respondents were followed up and participated in phase two of the quantitative survey.

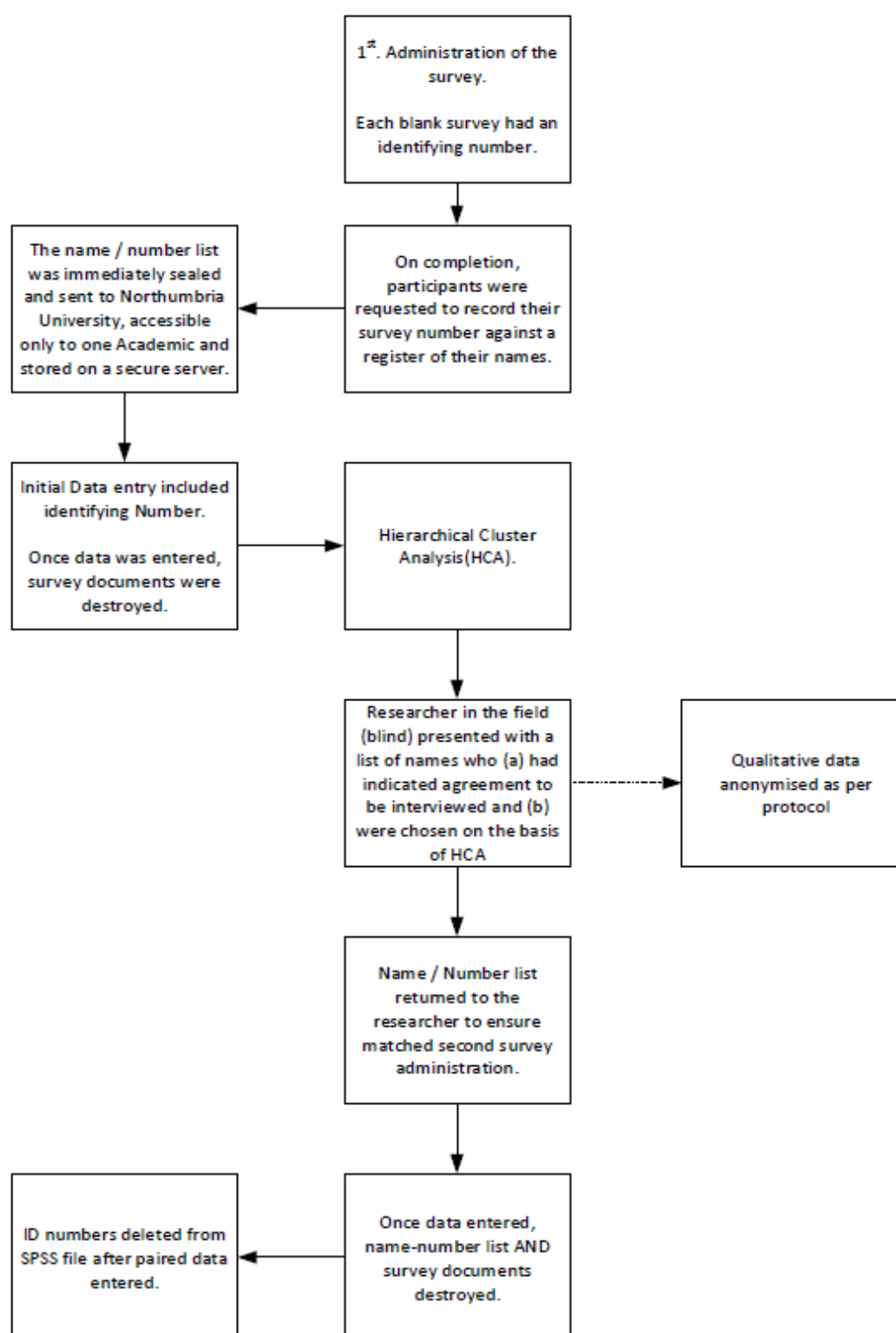
Table 3.7. Attrition.

121 participants from the phase one data collection
18 students were lost to follow up (10 students from the public school and 8 students from the private school).
103 respondents were followed up and participated in phase two of the quantitative survey

(f). Further Design Considerations: Maintaining Anonymity.

Once gatekeeper permissions, parental consent, and participant assent were obtained, participants were allocated a unique identifying number. The database that matches participants' identity and the identifying number was kept on a secure server at Northumbria University accessible only by an academic. This measure was taken in order to preserve complete anonymity of the completed survey documents; neither the researcher nor school personnel were able to identify individuals. The cluster analysis was used to identify which respondents belong to each cluster. Requests for information that match individual names with identifying numbers were only made in order to ensure that the subsequent survey administration is 'matched' and to identify potential participants for the qualitative phase of the study based upon location within each cluster; and a prior indication of willingness to take part in face to face interviews.

Figure 3.8: Maintaining Data Anonymity.



(g). Further Design Considerations: Validity.

Validity in mixed methods research, according to Creswell and Plano Clark (2011), is a way of adopting approaches that tackle potential issues in data collection, data analysis and data interpretation which may arbitrate the combining or merging of the

qualitative or quantitative strands of the study as well as the conclusion drawn from the amalgamation.

Creswell and Zhang (2009) stated that rigour in mixed methods requires validity for both quantitative (internal validity, external validity and design validity) and qualitative phases (trustworthiness, authenticity, member checking and so on). Similarly, a good research design should take into consideration rigour both in quantitative and qualitative data collection, analysis, and methods (Clark and Creswell 2008). In like manner, an aspect of all good research is a report on the validity of the data and results (Creswell and Plano Clark, 2007). However, this can vary in quantitative and qualitative research, although it aids the purpose of checking the quality of the data and the findings. Johnson and Onwuegbuzie (2004) highlighted that evaluating the validity of the findings in research is complex and thus they recommend that validity in mixed research be named 'legitimation'. There are various types of legitimation for mixed methods, these are presented in Table 3.4. For this study, legitimation for mixed research was addressed by adopting inside-outside legitimation, weakness minimization legitimation, multiple validities and paradigmatic mixing.

Table 3.8. Types of Legitimation for Mixed Research.

The Typology of Mixed Methods Legitimation Types	
Sample integration	This is generalizing from the sample and giving quality meta-inferences by combining together deductions from both the qualitative and quantitative stages; one method is to adopt the non-dominant design, leading to significant deductions in the dominant phases and weak deductions in the less dominant phases
Inside-outside legitimation	Utilizing the view of both insiders and observers to examine the data and its synthesis, for example; description and explanation, peer review
Weakness minimisation legitimation	Balancing the weakness of one approach with strengths from the other approach, that is balancing the weakness quantitative approach with that of the qualitative approach and vice versa.
Sequential legitimation	Influencing meta-inferences by overturning the sequence of the qualitative and quantitative phases
Conversion	Cautiously analyzing the meta-inferences of the data from the quantitative or qualitative strand
Paradigmatic mixing	Utilizing both viewpoints from the quantitative and qualitative data in a study. This helps to give a comprehensive and in-depth understanding of the research area.
Commensurability	Interchanging from the quantitative approach to the qualitative approach and back again, that is a sequential approach.
Multiple validities	Involves adopting all research strategies within the research and taking into account various relevant validities, such as data triangulation,
Political	Handling appropriated power in the phase of planning, conducting and the use of research so as to find workable solutions or answer the questions

Source: Johnson & Onwuegbuzie (2004).

(h). Data Analysis within Mixed Methods Designs.

A mixed analysis was used in this research. The mixed analysis involves the use of both quantitative and qualitative analytical methods within the same framework (Creswell and Plano Clark, 2007; Onwuegbuzie and Combs, 2010). Mixed analyses also involves the analysis of either one or both types of data, which takes place either concurrently (that is, it happens in no sequential order), or sequentially in two phases (this occurs when the qualitative analysis phase precedes the quantitative analysis phase or vice versa, with findings from the initial analysis phase informing the ensuing phase) or more than two phases (that is, occurring iteratively) (Creswell and Plano Clark, 2007; Onwuegbuzie and Combs, 2010). However, the type of data analysis used depends on the type of mixed methods design used in the research. Therefore, for the four types of mixed method design, there are varying analytical procedures used for each. For triangulation and embedded design, the procedure of mixed method data analysis used is convergent data analysis, while the sequential data analysis is used for the exploratory, explanatory and embedded designs (Creswell and Plano Clark, 2007).

For the purpose of this thesis, sequential mixed data analysis was used. Sequential mixed data analysis occurs when either the QUAL and QUAN strands, appear in a chronological form, in a way that one strand comes from or relies on the preceding strand (Teddlie and Tashakkori 2009). However, according to Teddlie and Tashakkori (2009), there are three types of sequential mixed data analysis strategies:

- Sequential QUAL → QUAN analysis including typology development
- Sequential QUAN → QUAL analysis including typology development
- Iterative sequential mixed analysis.

The iterative sequential mixed analysis which is the third type of sequential mixed data analysis was further adopted, as this suits the purpose of this research, that is, iterative sequential mixed analysis can be defined as a sequential design which occurs with more than two phases. For instance, QUAN → QUAL → QUAN. This has the potential of moving from a simple process to a more complex one (Teddlie and Tashakkori 2009; Creswell and Plano Clark, 2011). The iterative sequential mixed analysis helped the researcher to gather rich qualitative data and survey data from two groups of participants (adolescent from the public and private school).

According to Creswell and Plano Clark, (2011), there are steps in which data are analysed in mixed method research. These include; preparing the data analysis, exploring the data, analysing the data, representing the data analysis and interpreting the results.

As a mixed method researcher, the quantitative data was explored first. The raw data was transformed into a form suitable for data analysis. A numeric value was given to each response. However, in this research, the Statistical Program for the Social Science (SPSS) version 24 was used for the recoding and computing. A codebook was established for the list of variables, their definitions and the number or code linked with the response options.

The first statistical analysis performed was a hierarchical cluster analysis of baseline survey data. This was carried out in order to inform sampling for the qualitative interview part of the research. Prior to this, participants who took part in the quantitative phase one of the data collection were allocated a unique identifying number. Afterwards, cluster analysis was used to identify which respondents belonged to each cluster (home and peer-based oriented). Therefore, the researcher interviewed a variety of boys/girls from both clusters 1 and 2. The researcher was guided by other things like rural/urban / tribe/ religiosity/family affluence etc. in order to achieve a maximum variation in the sample.

For the qualitative data analysis, interviews were the data transcribed verbatim into word processing files. However, the transcription was evaluated for accuracy before proceeding with the analysis. Thematic analysis was used to identify emerging themes (Braun & Clarke 2006; Teddlie and Tashakkori 2009). The reason for using thematic analysis is because it complements the findings from the quantitative analysis, thus providing an in-depth understanding of the results. Braun and Clarke (2006) states that the core rationale of thematic analysis is to give answers to research questions by spotting patterns of meaning originating from the datasets. In this study, this was carried out by following a meticulous method of data familiarisation, coding, identifying of themes, developing and revising the identified themes. One of the major advantages of thematic analysis is that it is flexible it is not attached to any specific discipline (Vaismoradi et al., 2013). In exploring the qualitative data, which involved reading the data to initiate a broad overview of the database, code book was created in

order to help organize the data and promote synchronization on the themes in the transcripts. In the process new codes are added and other codes removed. Code books stem from the data set that was generated or adopted from previous literature (Braun and Clarke 2006; Creswell and Plano Clark, 2011).

(i) Descriptive Statistical Analysis.

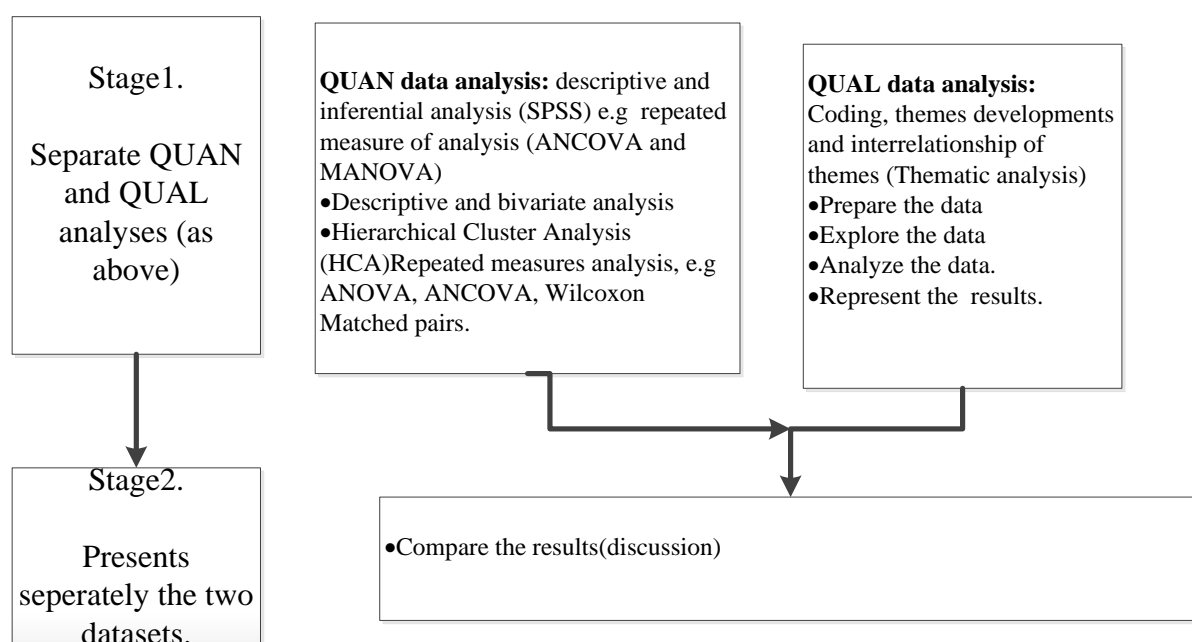
This is the second stage of data analysis; it involves assessing the data by means of summary statistics. Correspondingly, exploring data in quantitative analysis involves visually checking the data and carrying out a descriptive analysis so as to identify common trends (Creswell and Plano Clark, 2011). The data were to ascertain and examine whether the distribution was normal or abnormal; in order to choose the most appropriate statistical that can be used for analysis (Teddlie and Tashakkori 2009; Creswell and Plano Clark, 2011). Descriptive statistics were generated for all the variables in the study. The statistical test chosen includes mean, median, mode, range and standard deviation.

(ii) Inferential Statistical Analysis.

This involves examining the database to address the research objectives. The quantitative dataset is analysed according to the type of research question(s) and the most suitable statistical tests. The qualitative data display was used for qualitative data analysis (Teddlie and Tashakkori 2009; Creswell and Plano Clark, 2011). A qualitative data display is a visual staging of the themes that emerge from the data using a categorical approach which aids evaluation, thus, enhancing a better understanding of the research objectives (Braun and Clarke 2006; Teddlie and Tashakkori 2009; Creswell and Plano Clark, 2011).

See figure 3.9 below.

Figure 3.9. Data analysis procedures in sequential design.



Source: Adapted from Creswell and Plano Clark, (2011).

3.11. REFLEXIVITY.

Methodological reflexivity is an essential aspect of reflexivity; it is referred to as the methodological virtue that contains many programmatic variants which generally entail self-analytical acts or processes (Lynch, 2000). In addition, it is a pathway to superior subjective insights. An example of the programmatic variants in methodological reflexivity is the methodological self-criticism. The reflexivity self-criticism is helpful in the long-run as it boosts the status (rather than undermines) knowledge and or truth claims that endure such criticism.

The first person narration will be used to present important aspects of myself rather than the academic standard of the third person narration. I consider doing a PhD in the UK as more liberating than in my own country. This is because, the research is predominantly determined by the researcher, and the supervisors provide maximum support where necessary. My background in public health fuelled my interest in doing doctoral research in adolescent sexual and reproductive health. Most importantly my experience as a young woman growing up in a traditional religious society in Nigeria facilitated my interest to research this aspect of public health. Furthermore, over the years I have developed a keen interest in working with young people. In addition, my passion for health education, promotion and protection,

prevention of diseases, broad population health and wellbeing including evidence for underpinning practice increased greatly. All these put together facilitated the birth of my research focus.

As a doctoral researcher my keen areas of interest among others are maternal and child health, adolescent health, sexual and reproductive health and so on. Before moving to the UK I worked in a Federal Health Institute for a year in 2012. However in 2014, I relocated to Newcastle where I obtained a Masters of Public Health from Northumbria University. Obtaining and going through a Master's taught programme in public health elevated my interest to a thoughtful level. During the Master's programme, I learnt much more about public health interventions and policies, a broad overview of epidemiology, fundamentals of public health, health protection, various research methods, health leadership and management.

According to Strauss and Corbin, (1990) a research topic is frequently indicative of professional interest and know-how. This made me appreciate the vetting from a personal to a professional level. An important intervention for the preservation and protection of health ought to be underpinned by evidence such as this study.

Without a doubt, conducting research in an area of interest has sustained me and enabled me to study actively right through the project. However, my own, views and background could influence the data collection and analysis process. Nevertheless, influence has been minimised as the study followed a thorough documented process. Also, data gathered from this research were cross-examined and validated by my supervisor who is extensively experienced in research. All these processes helped to put the researchers under check, to limit and avoid researcher bias. Participation was based on informed choice and participants were provided with essential information to facilitate their decisions to take part. Similarly, as a public health practitioner, being conscious of informed decision making, I endeavoured not to be perceived or seen as an advocate of sexual abstinence nor as a sexual health educator but as a researcher whose aim is to explore adolescents' experiences and views regarding their sexuality. One reason I chose a mixed methods approach was to help participants communicate their views both quantitatively (numerically) and qualitatively (in-depth). Above all my PhD journey has been an enlightening process both for me as a professional and as a human being.

CHAPTER FOUR

RESULTS

4.1. Chapter Overview.

This chapter presents the results for this study. Data analysis is described together with the forms and various ways both quantitative and qualitative data were prepared, explored, analyzed and represented. Bivariate and multivariate analyses were used to analyse the quantitative data, while thematic analysis was used to analyse the qualitative material. Demographic factors such as socio-cultural (socioeconomic, culture, gender, ethnicity) factors, age, religion were identified as major influences of adolescent sexual development, while attitudinal factors included age, school type and gender. This chapter begins with the results from the baseline quantitative phase, followed by the qualitative analysis and concludes with the result from the +6months survey.

4.2. RESULTS.

4.3. ANALYSIS OF SURVEY (ROUND 1): DESCRIPTIVE STATISTICS.

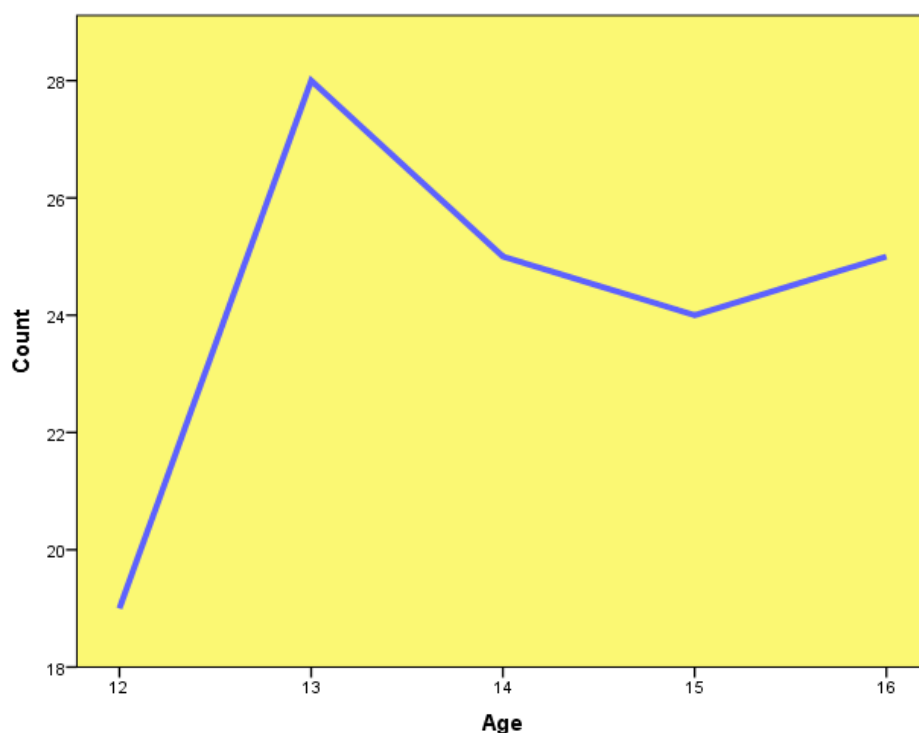
4.3.1. Socio-demographic characteristics of respondents.

Descriptive analysis of the sample group (n=121) produced the following patterns of data. 48% of the sample were male adolescents while 52% were female. The mean age was 14 years (minimum 12 years and maximum 16 years).

Table 4.1. Gender of in-school adolescents.

No	Gender	Percentage
1	Male	48%
2	Female	52%
	Total	100%

Figure 4.1. Graph of distribution of respondent (in-school adolescents).



Religion

Evidence from the analysis reveals that 26% of the respondents were Muslim while the 74% were Christians.

Table 4.2. Showing the religions practice of respondents.

No	Religion	Percentage
1	Muslim	26%
2	Christian	74%
	Total	100%

Adolescent's area of residence.

Eighty six percent (86%) of the respondents were living in the city, 13% in town while 1% lived in village. Evidence from the analyses reveals that respondents attending the public (government) school were more likely to reside in the rural settlement. This

may be due to the low social economic status of their parents. Although, the majority of the respondents from the study claim to reside in the city.

Table 4.3 Adolescent's area of residence.

No	Place of living	Percentage
1	City	86%
2	Town	13%
3	Village	1%
	Total	100%

Parent's Occupational class recoded.

23% of the adolescents come from families where parents belong to the working class occupation group while 62% of the adolescents' parents belong to the middle class/professional occupation group.

Table 4.4. Showing respondent's parent occupation.

No	Parent occupation	Percentage
1	Working class occupation	23%
2	Middle class/professional occupation	62%
	others	15%
	Total	100%

Adolescent parent communication.

Figure 4.2, shows that 62% of respondents find communication very difficult, 14% find it difficult, 10% are ambivalent, 12% find talking easy and 2% said it was very easy to discuss matters important to them with their mother.

Figure 4.3, reveals a similar situation, 45% of adolescents find talking very difficult, 22% find it difficult, 14% are ambivalent, 14% find talking easy and 5% finds it very easy to discuss matters important to them with their father.

The results show that many of the respondents have great difficulty speaking with their parents on issues important to them. Although compared to figure 4.3, figure 4.2, reveals a higher percentage of adolescents who find it more difficult to speak with their mother than their father on matters important to them. This may be because mothers are sometimes perceived to be stricter than fathers, as mothers are often the homemakers and caregivers. Also, the findings indicate the level and type of relationship that exists between adolescent and parent. There appears to be poor adolescent parent communication in many families.

Figure 4.2. Bar chart showing whether or not adolescent finds it difficult or easy to discuss important matters with mother.

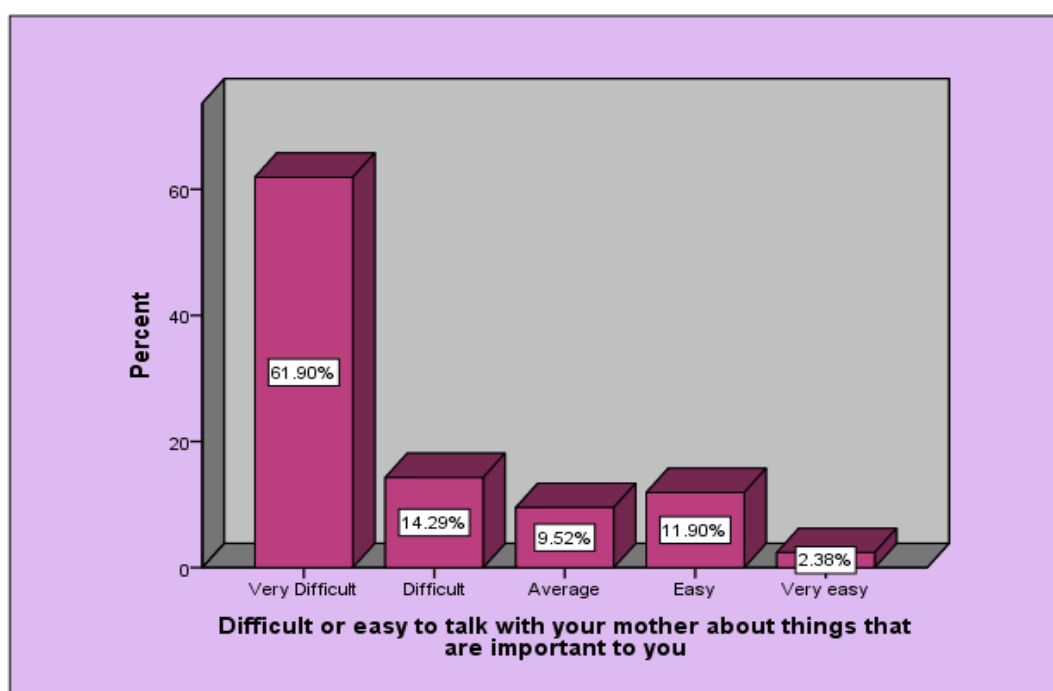
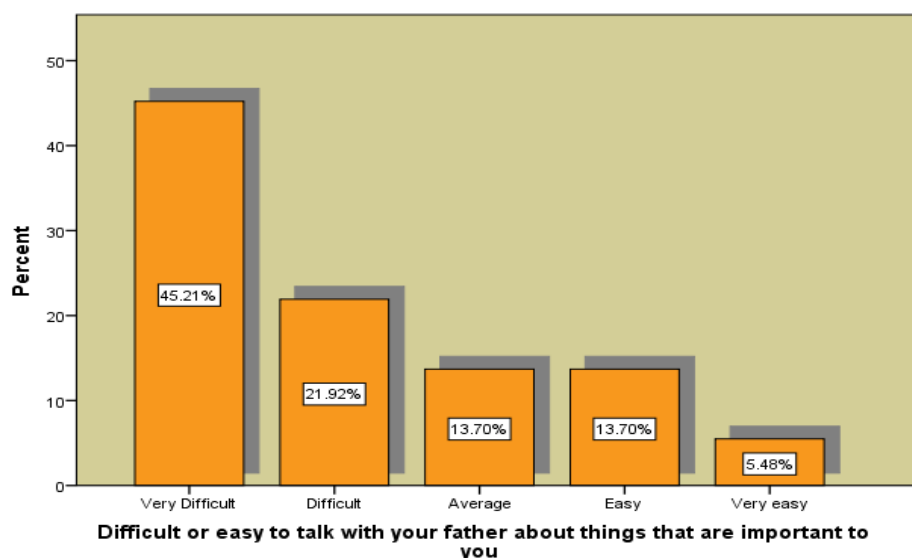


Figure 4.3. Bar chart showing whether or not adolescents find it difficult or easy to discuss important matters with father.



Adolescent parent communication on sexual matters.

Interestingly, despite the fact that Figures 4.2 and 4.3 reveals that a high percentage of adolescents find it difficult to discuss matters important to them with their parents, on the contrary in Figure 4.4 below, 82.52% talk very often, 10.68% often, 5.83% occasionally and 0.97% rarely discuss sexual matters with their father. This shows that a high percentage of adolescents find discussing sexual matters with their father easier than discussing other matters important to them. Although, fathers might have been the one initiating the discussion (sexual matters).

From Figure 4.5, 63.54% reported discussing sexual matters very often, 12.50% often, 17.70% rarely, 6.25% occasionally with their mother. Furthermore, the analyses show that adolescents find discussing sexual matters with mother easier than discussing some other matters important to them, on the same note; mothers might have been the one who initiated these discussions.

However, comparing Figure 4.9 and 4.10, it is obvious that a high percentage of adolescent discuss sexual matters with their father more than their mother.

Figure 4.4. Bar chart showing whether adolescents have ever discussed sexual matters their fathers.

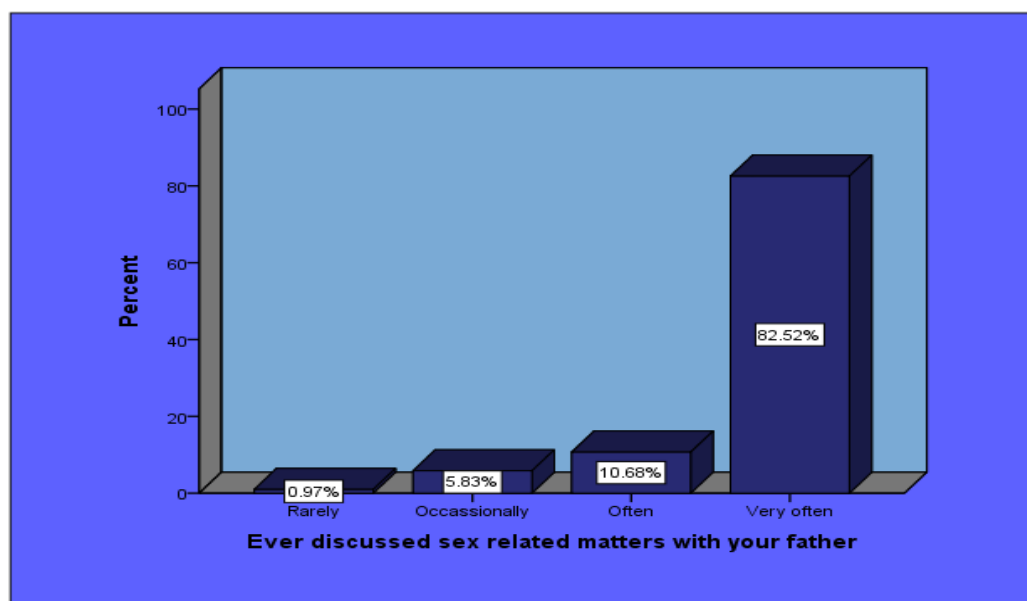
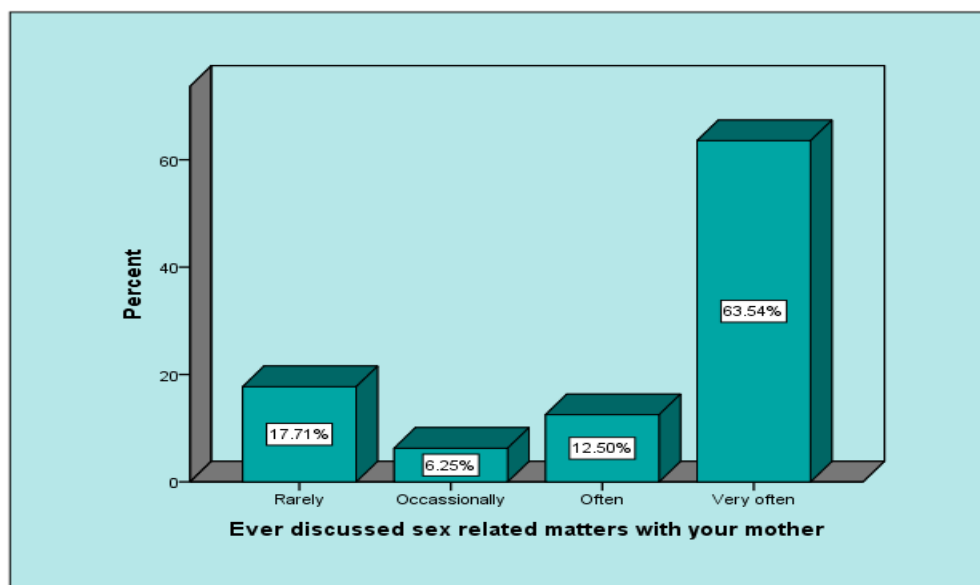


Figure 4.5 Bar chart showing whether adolescents have ever discussed sexual matters with their mother.



Adolescents source of information on sexual matters.

Figure 4.6(i), shows that adolescents sources of information on sexual matters include; 34.51% from mother, 30.09% from school/teachers, 10.62% from friends, 7.08% from father, 7.08% from sisters, 4.42% from books and magazines, 1.77% from brothers, 1.77% from films and video, 0.88% from other family members and 0.88% from others. Mothers and school are clearly adolescents' most important source of information on relationship and sexual matters.

However figure 4.6(ii), reveals that adolescents' source of information on sexual matters varies by gender. That is, 27% of male adolescents and 24% of female adolescents claim that the school/teacher has been the most important source of information on sexual matters. Although, 28% of female adolescents and just 10% of male adolescents claim that the mother is their most important source of information.

Figure 4.6(i). Pie chart showing adolescents most important source of information on relationship and sexual matters.

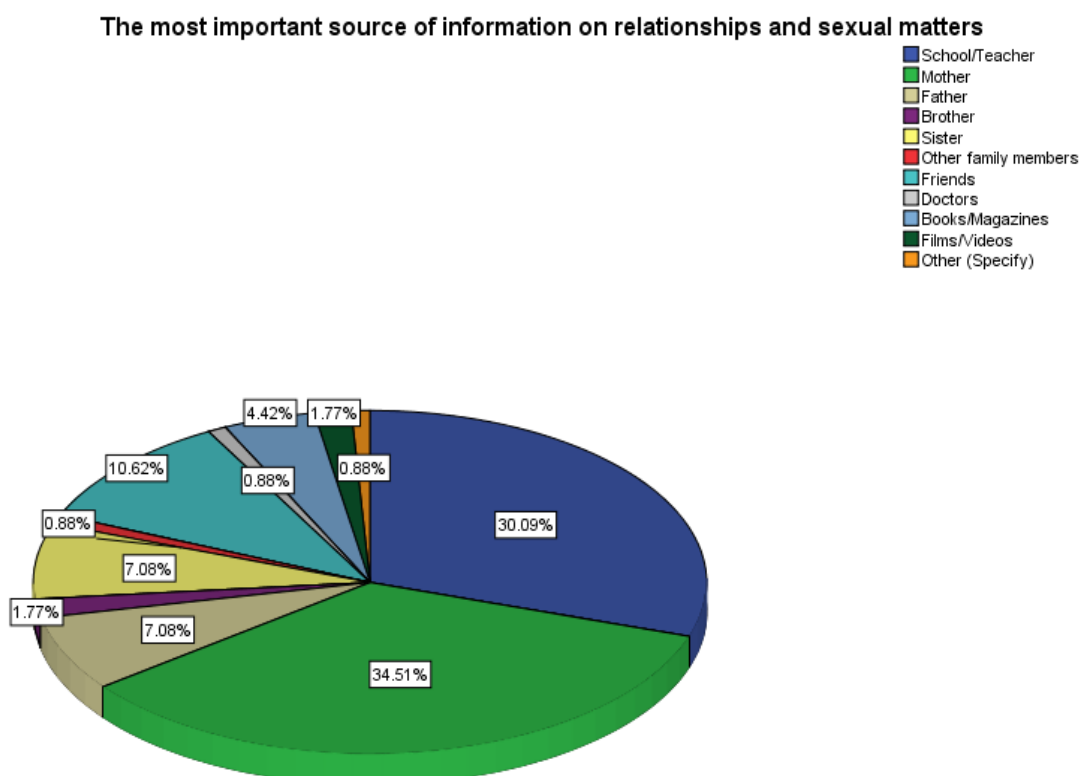
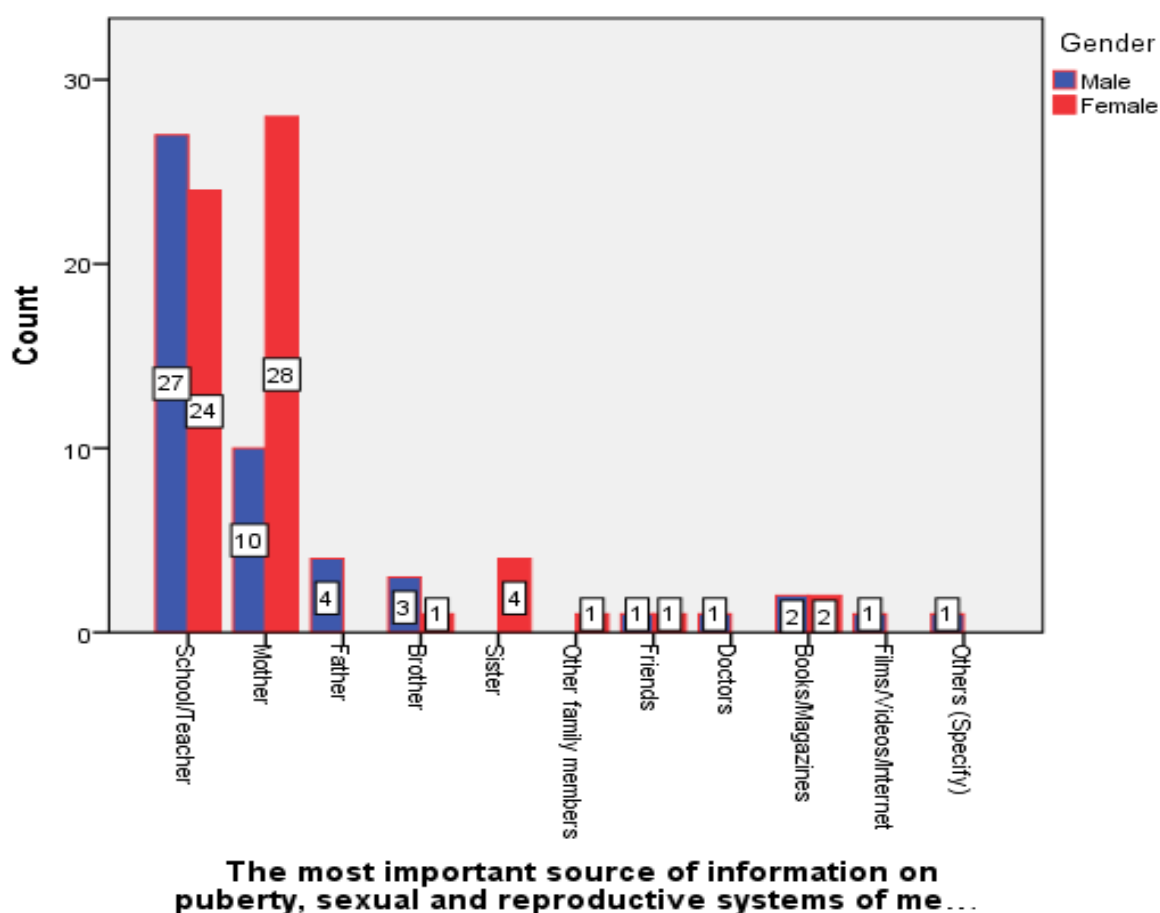


Figure 4.6(ii). Bar chart showing adolescents most important source of information on relationship and sexual matters in relation to their gender.



Adolescents' preferred sources of information on relationship and sexual matters.

Figure 4.7(i), reveals that the most preferred sources of information on relationship and sexual matters are, 42.02% from mother, 23.52% from school/teacher, 9.24% from father, 8.40% from sister, 7.56% from brother, 3.36% from other family members, 2.52% from friends, 2.52% from doctors, and 0.84% from magazines and books respectively. These findings reveal that a large percentage of adolescents prefers to receive sexual information from their mother followed by their school/ teacher. This

may because of the role they both play in the life of the adolescent particularly as moral authorities

However, Figure 4.7(ii), shows adolescents' preferred source of information by gender; with 18% males prefer to hear from school/teacher while 10% of female adolescents prefer to hear from this source. Interestingly, 32% of female adolescents prefer to hear from their mother while just 18% of male adolescents prefer to. Also 6% male adolescents prefer to hear from their father, while only 3% of female adolescents do. Furthermore, 6% of male adolescents prefer to hear from their brothers while 10% of female adolescent prefer to hear from their sisters. Some gender preferences are evident, for example adolescents are more likely to discuss and or receive information from the same sex, for instance, a male discussing with the brother or his father. Discussing with same-sex may perhaps bring a better understanding on the issues and will enhance the ability to express oneself better.

Figure 4.7(i). Pie chart showing adolescents most preferred source of information on relationship and sexual matters.

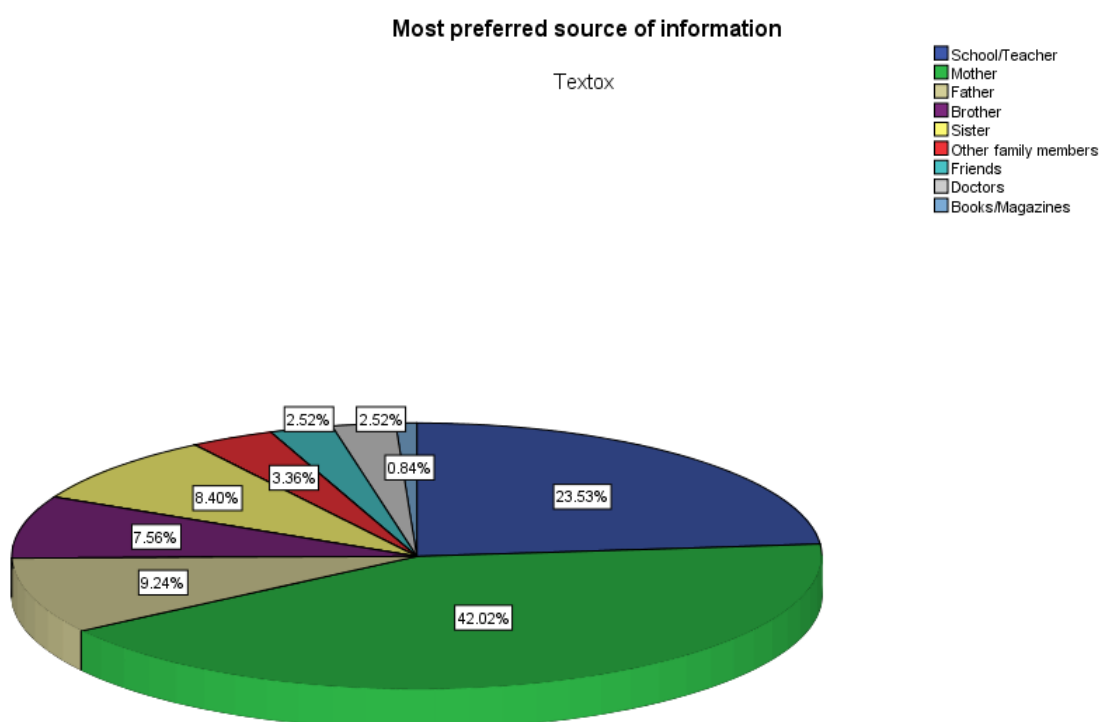
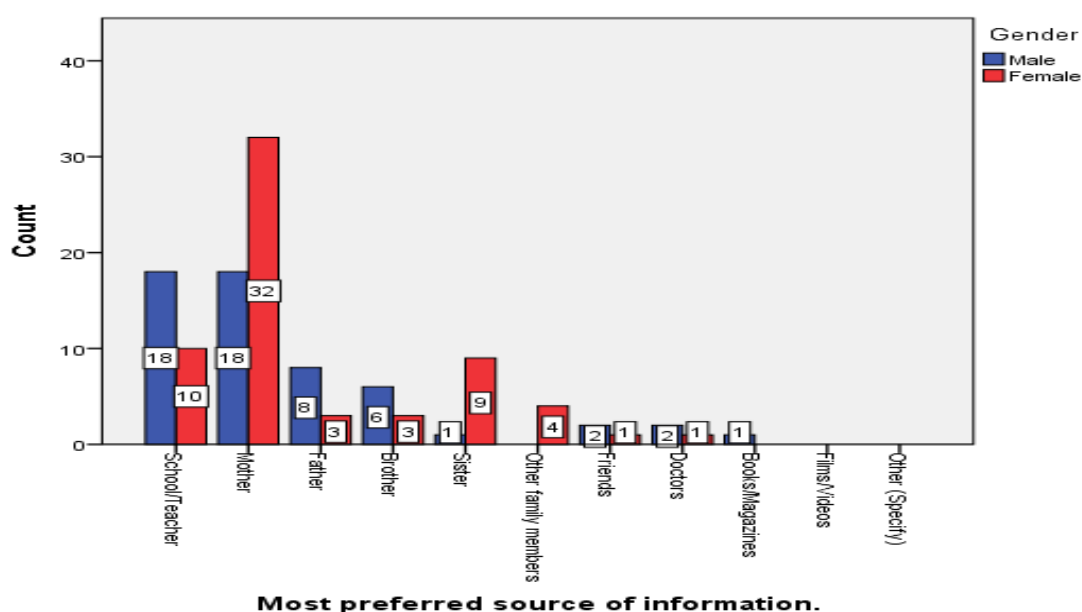


Figure 4.7(ii). Bar-chart showing adolescents most preferred source of information on relationship and sexual matters by gender.



Sex education and adolescent thoughts about sex education classes.

Figure 4.8, 77.78% of adolescent has ever attended classes on puberty, sexual and reproductive systems. However, Figure 4.9 reveals that 80.51% of adolescents want more of these classes, 9.32% want fewer while 10.17% think the classes they have had are about right. Adolescents desire to acquire more information regarding their sexual and reproductive health. This is not perhaps surprising, as they are in a transition stage with changes and development occurring in their bodies. Thus, they become curious to learn and discover more on how to understand and manage this stage in their life.

Figure 4.8. Bar chart showing if adolescents have ever attended classes on puberty, sexual and reproductive systems.

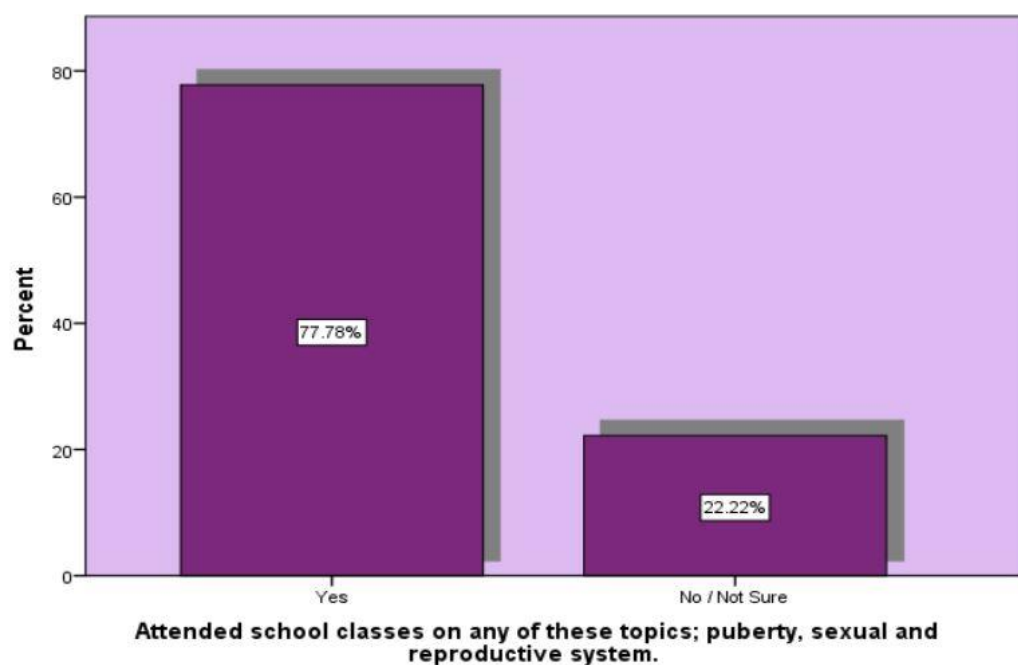
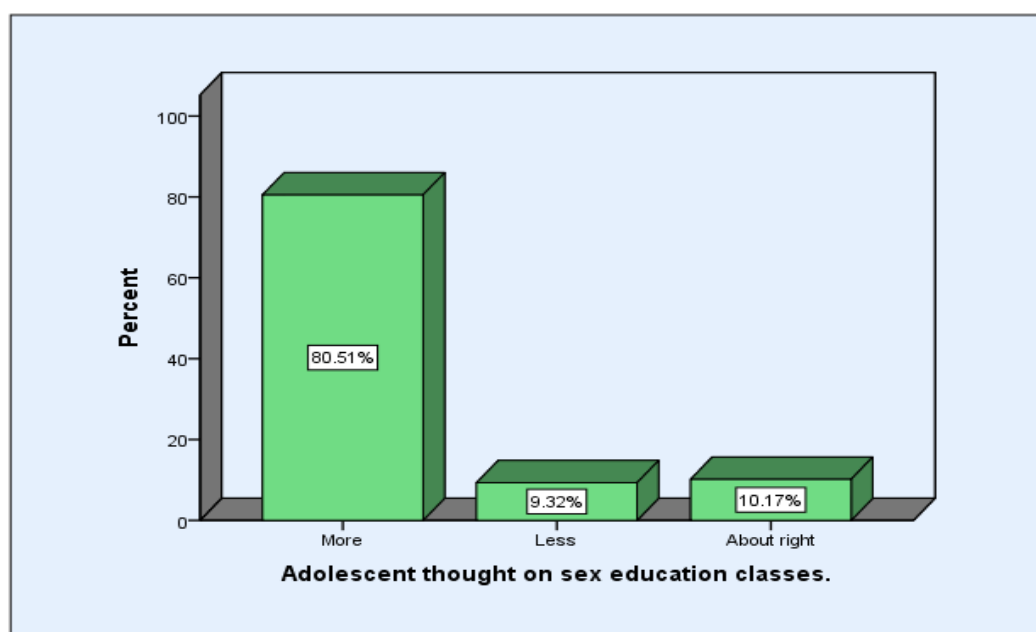


Figure 4.9. Bar chart showing adolescents' thoughts on sexual education classes.



Adolescent sexual maturity.

Figure 4.10, reveals that 39.32% of adolescents find boys or girls sexually attractive, while, from figure 4.11, 44.95% adolescents have had a boy or girl friend(s).

Figure 4.12, shows that 19.63% adolescents have had intercourse, while 55.05% say they have not.

Furthermore, Figure 4.13, reveals that 5% of female adolescents and 1% male adolescent feel pressure from friend/peers to have sex. Female adolescents are more pressurised to have sex than male adolescents. Also, 6% of the male adolescents are influenced by media/television/video to have sex. Male, according to their biological makeup, are usually moved by what they see, which can arouse sexual desires. However, only 2% of the female adolescents are influenced sexually by media/television/video.

Figure 4.10. Bar chart showing whether adolescents are sexually attracted to the opposite sex.



Figure 4.11. Bar chart showing if adolescents have ever had girlfriend(s)/boyfriend(s).

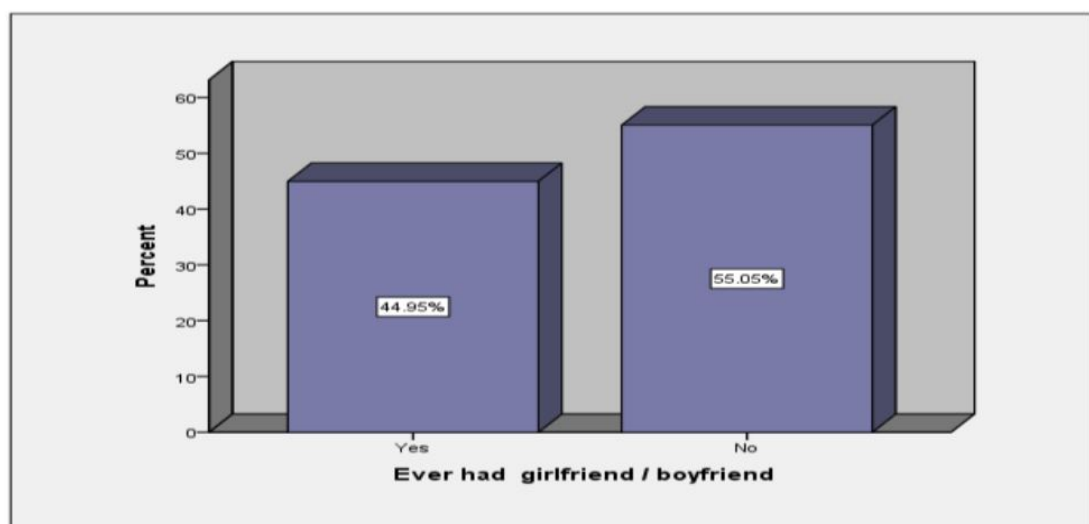


Figure 4.12. Bar chart showing if adolescents have ever had sex.

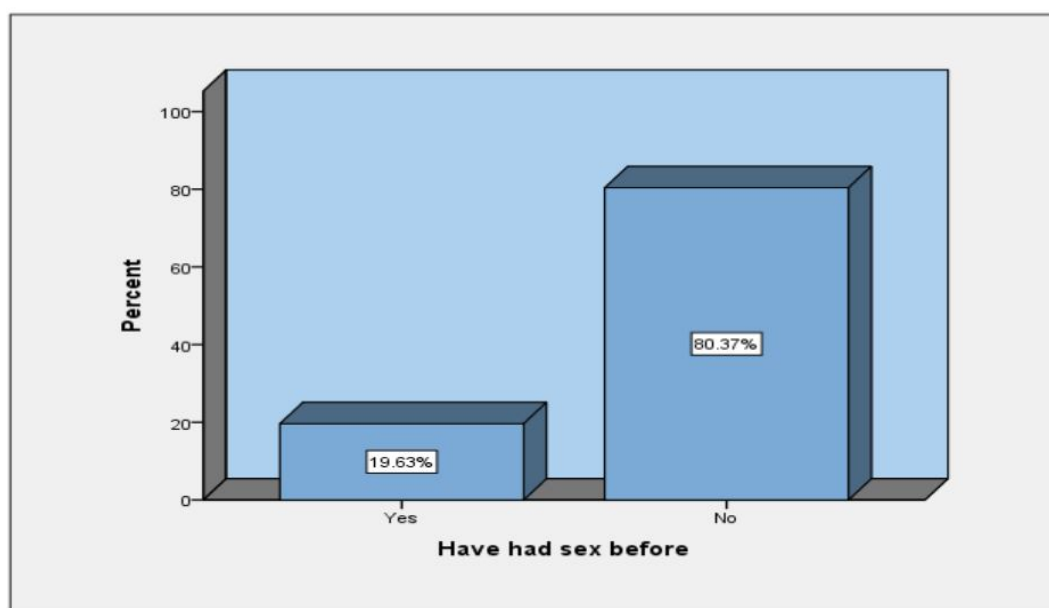
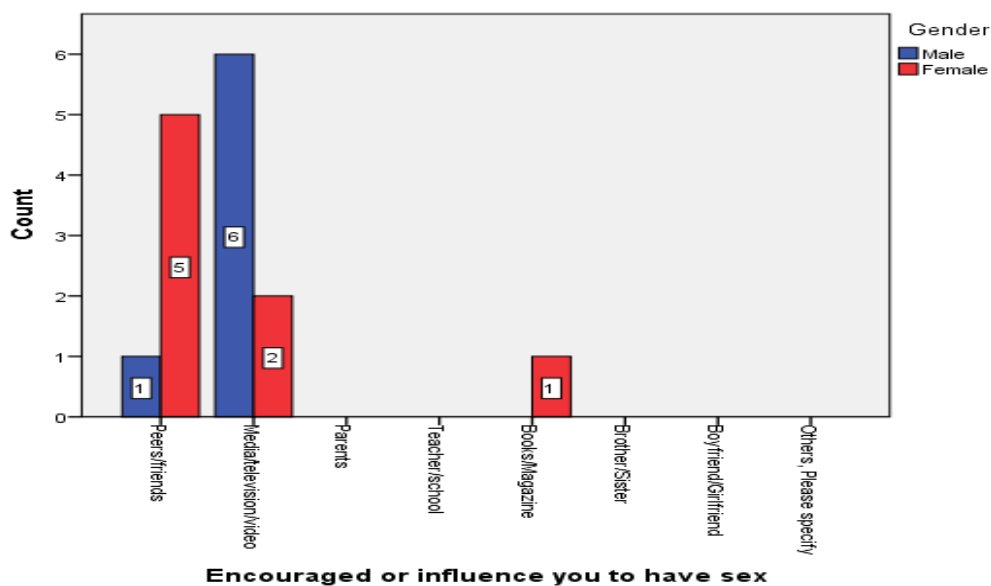


Figure 4.13. Bar chart by gender showing who or what encouraged adolescents to have sex.



4.4. BIVARIATE ANALYSIS OF ASSOCIATIONS BETWEEN VARIABLES.

Bivariate analysis involves the analysis of two variables (often denoted as X, Y), for the purpose of determining whether an empirical relationship exists between them (Babbie, 2015).

4.4.1. The Chi square test

The Chi square test (χ^2), of association is a versatile statistical test that is used to examine whether a significant association exists between two or more categorical variables (Wyllys, 2003). This was used to determine whether there is a significant association between gender, school type, parents' occupational class and some attitude questions.

Gender and attending classes on sex education.

There was a significant difference between gender and attendance in sex education classes. ($\chi^2 = 4.113$, with 1 *df*. $P \leq 0.043$). Thus, attendance in sex education classes differs by gender. The female adolescents were more likely to attend sex education classes in school than the male adolescent.

Gender and 'I find boy/girls sexually attractive'.

There was a significant difference between gender and attraction to opposite sex ($\chi^2 = 7.824$, with 1 *df* $P \leq 0.005$). Thus, there is some evidence of an association between gender and attraction to the opposite sex. The male adolescent was more likely to express sexual attraction to opposite-sex than the female adolescent.

Occupational class recoded and adolescents' attendance in sex education classes.

There was a significant difference between adolescent parent's occupational class and attendance in sex education classes. ($\chi^2 = 5.085$, with 1 *df*. $P \leq 0.024$). Adolescents whose parents belong to the middle /professional class are more likely to attend sex education classes than adolescents who belong to working class occupations. This may be because, parents of adolescents from a middle/professional class are likely to be more educated and thus, aware on the importance of sex education. Therefore, they might have counselled their adolescent on the benefit of attending such classes. Also, it might be that adolescents from middle/ professional class have less opportunity to discuss personal issues with their parent, as their parent may be too busy, thus, sex education classes may be their only major source of information.

Occupational class recoded and I find boy/girls sexually attractive.

There was a significant difference between the occupational classes an adolescent belongs to and finding opposite sex sexually attractive. ($\chi^2 = 4.552$, with 1 *df*. $P \leq 0.033$). Thus, adolescents whose parents were in middle /professional class were more

likely to express sexual attraction to opposite-sex than adolescents whose parents were in working class occupations. They usually have access to various sources of media, such as television, internet, movies, books and so on, where they learn various things such as, ways of expressing one's feelings.

School type and school sex education class attendance.

There was a significant difference between the adolescent school type and sex education class attendance. ($\chi^2= 7.388$, with 1 *df*. $P \leq 0.007$). Adolescents who attend public school were more likely to express attendance in sex education classes than adolescents who attend private school. This may be because of the occupational class, also this could be because, adolescents who attend the public school may be less informed on sexual matters at home, because many of their parents are usually less educated, thus, school may seem to be the major source of information for them on sexual matters, as many parents perceive school to be a place where children are given all forms of education and where all knowledge and information are acquired.

School type and ever had boy/girlfriend(s).

There was a significant difference between the adolescent school type and ever had a boy/girlfriend(s). ($\chi^2= 6.520$, with 1 *df*. $P \leq 0.011$). Adolescents who attend a private school were more likely to have a boy/girlfriend(s) than those in the public school. This may be because; adolescents in private schools see it more as some kind of trend in society and having a boy/girlfriend may mean showing maturity amongst peers. This does not mean that adolescents who attend public school do not have a boy/girlfriend; they might just decide not to disclose it.

Ever had a boy/girlfriend(s) and pressure from others to have sexual intercourse.

There was a significant difference between the adolescent ever had a boy/girlfriend(s) and pressure from others to have sexual intercourse ($\chi^2= 6.783$, with 2 *df*. $P \leq 0.034$). Adolescents who have ever had boy/girlfriends were more likely to be pressurised by others into having sexual intercourse. This pressure may be from peers or friends, encouraging them to have sex with their boy/girlfriend(s) as a way to prove their love. Most of the time these peers or friends have not themselves engaged in sexual intercourse, but want to appear experienced.

Had sex and pressure from others to have sexual intercourse.

There was a significant difference between the adolescent ever had sex and pressure from others to have sexual intercourse ($\chi^2 = 4.072$, with 1 df. $P \leq 0.044$). Adolescents who have had sex were more likely to express pressure from others to have sexual intercourse. Thus, adolescents who have had sex, because of pressure from others, may not have acquired the necessary skills to overcome pressure from others into having sex. Thus, there is a need to teach adolescents skills on how to manage and resist pressure from others to have sex.

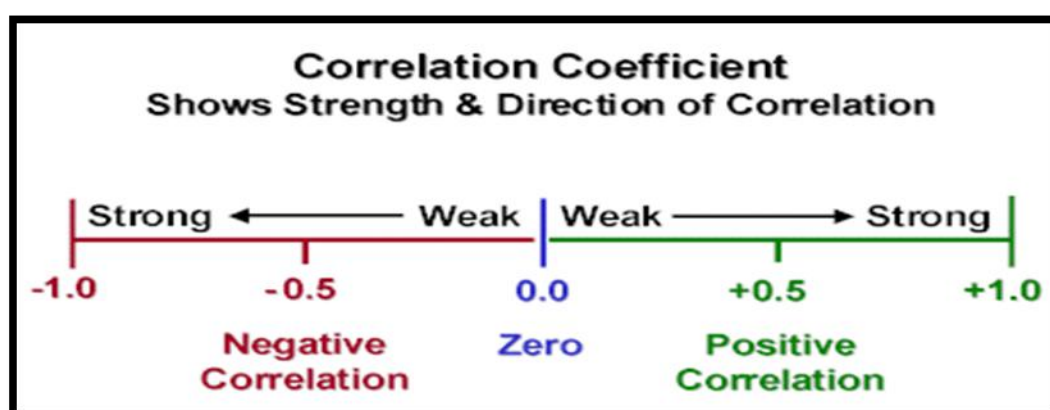
4.4.2. Correlation test between variables.

The Spearman's correlation coefficient is a statistical measure of the strength and direction of a monotonic relationship between two ranked data; it is denoted by the letter r (Lund Research, 2013b).

Scales

The value ' r ' of correlation depicts a strong relationship. However, a ' r ' value of ± 1 is the strongest possible relationship with 0 interpreted as no relationship. Also, there is a sliding scale of the strength of relationship where a value is less than 0, this is interpreted as an inverse linear relationship and a value greater than 0, is interpreted as a direct linear relationship (Rahbar, 2015).

Figure 4.14. Strength of correlation.



Source: *Adapted* from Rahbar, (2015).

From the correlation test, it was observed that there is a significant direct correlation between attendance in religious services and how easy it is to obtain prevention service, ($r= 0.750$, $P\leq 0.020$). Also, there is a significant direct correlation between adolescent talking to their father about things important to them and talking to mother about things that are important to them, ($r=0.516$, $P\leq 0.001$). In the same vein, talking to father on sexual matters significantly (direct) correlates with talking to mother on sexual matters, ($r=0.540$ $P\leq 0.000$). This may perhaps mean that, whatever adolescents discuss with father, will also be likely discussed with their mother by the father and vice versa, including sexual matters. Furthermore, there is a significant inverse correlation between adolescents talking to father about things important to them and the number of boy/girlfriends they have had, ($r=-0.483$, $P\leq 0.004$).

4.4.3. Correlation between attitudes and perception towards sexual matters and sexuality.

There is a significant positive correlation between adolescents not feeling ready to have sex and the thought that sex before marriage is wrong, ($r=0.347$ $P\leq 0.000$). Adolescents who do not feel ready to have sex are influenced by their belief that sex before marriage is wrong. Religious and societal moral belief may be the underpinning discourse to this association.

Furthermore, there is a significant direct correlation between adolescents not feeling ready to have sex and being afraid of getting pregnant, ($r=0.357$, $P\leq 0.000$). Where adolescents are aware and have easy access to contraception to prevent pregnancy, there is perhaps an increased likelihood that they may engage in sexual intercourse. Thus, a need for comprehensive sexual education where adolescent can make positive informed choices regarding sexual behaviour.

Also, there is a significant weak correlation between adolescent thought that sex before marriage is wrong and being afraid of getting pregnant, ($r=0.257$, $P\leq 0.005$). The societal stigma associated with getting pregnant outside marriage may carry a weight and influence.

Similarly, there is a significant direct correlation between, adolescents' fear of getting pregnant and afraid of contracting HIV/AIDS and STIs, ($r=0.457$, $P\leq 0.000$). Adolescents are not only afraid of getting pregnant but also afraid of contracting STIs

including HIV. This may be due to the stigma and discriminations that come with being identified as having been a case or victim.

There is a significant weak inverse correlation between adolescents' attendances in religious services and 'I would refuse to have sex with someone who is not prepared to use a condom'. ($r = -0.182$, $P \leq 0.47$). Thus, there is the probability that adolescents who attend religious services often are more likely to refuse sexual intercourse without condom use. The religious discrimination and punishment attached to being pregnant or impregnating a girl outside wedlock or contracting STIs may act as a deterrent. While adolescents who do not attend religious services may have unprotected sex.

In addition, there is a significant weak inverse correlation between the importance of religion in the life of adolescent and that 'it is mainly the girl's responsibility that contraception is being used regularly', ($r = -0.214$, $P \leq 0.019$). Religion has it appears enhanced gender equality in the use of contraception regularly.

There is a significant weak correlation between adolescent thought on 'I think boys sometimes have to force a girl to have sex if he loves her' and 'I am confident that I can insist on condom use every time I have sex' ($r = 0.306$, $P \leq 0.001$). Thus, adolescents may force a girl they love to have sex because of their ability to access and use contraception every time they have sex. An adolescent girl may be persuaded to yield to this pressure, being aware and assured that contraception will be used.

There is a significant direct correlation between 'adolescent thought on the confidence to insist on condom use every time they have sex' and 'it is mainly a girl's responsibility to use contraception' ($r = 0.400$, $P \leq 0.000$). Thus, one can infer that adolescents have confidence to insist on condom use but believe that it is the responsibility of a girl to use contraception.

Equally, there is a significant correlation between 'adolescent confidence to insist on condom use every time they have sex' and 'the refusal to have sex with someone who is not prepared to use a condom', ($r = 0.223$, $P \leq 0.014$). It can be deduced that an adolescent who has confidence in condom use will refrain from sex with someone who will not use a condom. Adolescent awareness of the consequences of not using a condom during sex may be a predictor of behaviour.

Moreover, there is a significant correlation between ‘adolescents’ confidence to insist on condom use every time they have sex’ and ‘the feeling of knowing how to use a condom properly’, ($r=0.314$, $P\leq 0.000$). Hence, knowledge and understanding of condoms increases the likelihood of their use during intercourse. Conversely adolescents who do not know how to use a condom properly maybe less confident to insist on condom use during sexual intercourse.

There is a significant correlation between ‘adolescents thought that it is mainly the girl's responsibility that contraception is being used regularly’ and ‘the refusal to have sex with someone who is not prepared to use a condom’, ($r=0.414$, $P\leq 0.000$). Male adolescents are more reluctant to have sex if the girl is not prepared or hasn't a condom to use. The males believe, it is a girl's responsibility to make sure contraception is used regularly.

A direct significant correlation was found between ‘adolescent's refusal to have sex with someone who is not prepared to use a condom’ and ‘feeling of knowing how to use a condom properly’, ($r=0.248$, $P\leq 0.006$). Adolescents who know how to use a condom properly may refuse to have sex with someone who is not prepared to use a condom. Education of adolescents on the proper use of condoms and their benefits is needed.

Finally, a direct correlation between ‘adolescent knowledge score’ and ‘the refusal to have sex with someone who is not prepared to use a condom’ ($r=0.184$, $P\leq 0.043$). Adolescents who scored highly on knowledge are more likely to refuse sex with someone who is not prepared to use a condom.

4.4.4. Bivariate analysis: differences between groups.

The t-test is a statistical non-parametric test (substitute to the independent sample test), that is used to compare two sample medians that emerge from the same population and also used to examine whether two sample medians are equal or not (Lund research, 2013a). Generally, the Mann-Whitney U test is adapted when the data is ordinal or when the hypotheses of the t-test are not met (Lund research, 2013a). For the purpose of this thesis, only significant tests reported. The pre-specified level of statistical significance was that of $P\leq 0.05$. Therefore if the p-value is less than 0.05, we will conclude that a significant difference does exist. If the p-value is larger than 0.05,

we cannot conclude that a significant difference exists. In other words, p- value below 0.05, was considered significant while p- value over 0.05, *not* significant.

Table 4.5. Showing the summary of the bivariate analysis: differences between groups using the Mann-Whitney U test.

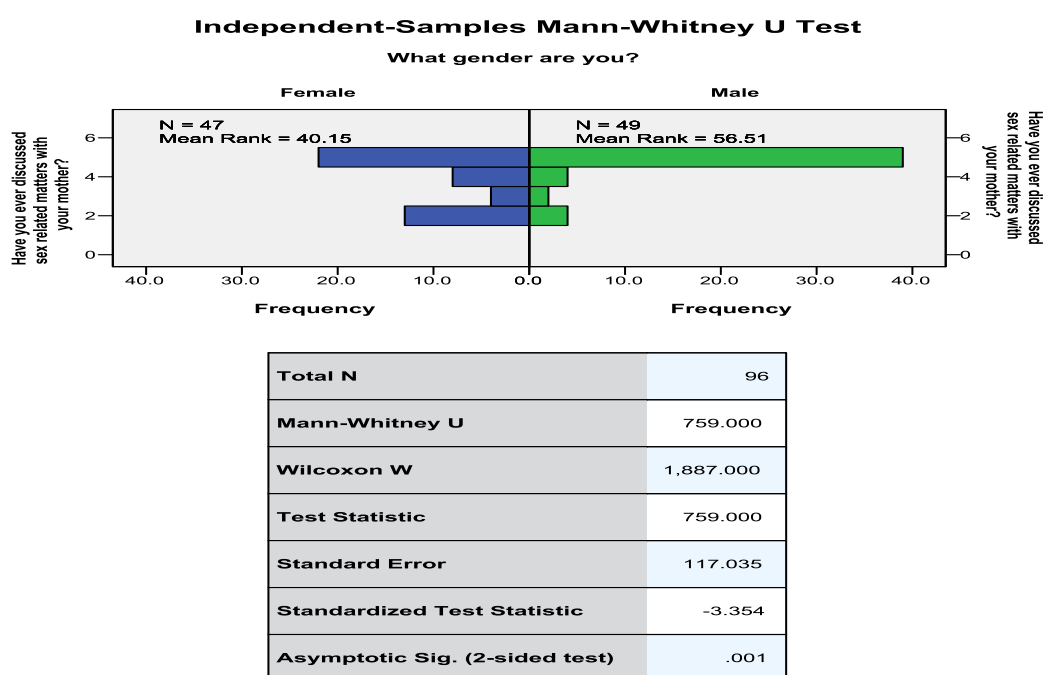
Grouping Variable	Continuous variable (attitude question)	Test statistic (U)	Significance (P-value)
Male vs Female	Ever discussed sexual matters with mother. (Female > Male)	U:759.000	$P \leq 0.001$
Male vs Female	Not being ready to have sex. (Male > Female)	U: 1327.000	$P \leq 0.019$
Male vs Female	Being afraid to get someone pregnant or get pregnant. (Male> Female)	U: 1271.500	$P \leq 0.006$
Male vs Female	There is nothing wrong with unmarried boys and girls having sexual intercourse if they love each other. (Female> Male)	U: 2105,500	$P \leq 0.035$
Male vs Female	It is mainly the girl's responsibility to ensure that contraception is used regularly. (Female> Male)	U: 2322,500	$P \leq 0.008$
Male vs Female	I think that you should be in love with someone before having sex with before (Female > Male).	U: 2,268,000	$P \leq 0.017$
Age: 12-14 years vs 15-16 years	I do not feel ready to have sex. (12 to 14years> 15 to 16years)	U=1,311,500	$P \leq 0.032$
Age: 12-14 years vs 15-16 years	I think sex before marriage is wrong. (12 to 14years> 15 to 16years)	U=1,382,000	$P \leq 0.034$
Age: 12-14 years vs 15-16 years	I think that you should be in love with someone before having sex with them. (12 to 14years> 15 to 16years)	U=1,382,000	$P \leq 0.036$

Religion: Christianity vs Islam	I would refuse to have sex with someone who is not prepared to use a condom. (Islam> Christianity)	U=1,059,000	P ≤0.036
School type: Private vs Public	Sex before marriage is wrong. (Private>public)	U=1,251,000	P ≤0.001
School type: Private vs Public	Fear of getting pregnant or getting a girl pregnant. (Private>public).	U=1,114,000	P ≤0.000
School type: Private vs Public	It is mainly the girl's responsibility to ensure that contraception is used regularly. (Public>private).	U=2,226,500	P ≤0.033
School type: Private vs Public	A boy will not respect a girl who agrees to have sex with him. (Private>public).	U=1219,500	P ≤0.001
School type: Private vs Public	You should be in love with someone before having sex with them. (Private>public).	U=1080,000	P ≤0.000
School type: Private vs Public	Feel that I know how to use a condom properly. (Public>private).	U=2,247.000	P ≤0.016
School type: Private vs Public	Refusal to have sex with someone who is not prepared to use a condom (Private>public).	U=2,240.000	P ≤0.026.
School type: Private vs Public	Adolescent knowledge score on sexual matters. (Public>private)	U=2,265.000	P ≤0.019

Gender and other independent variables.

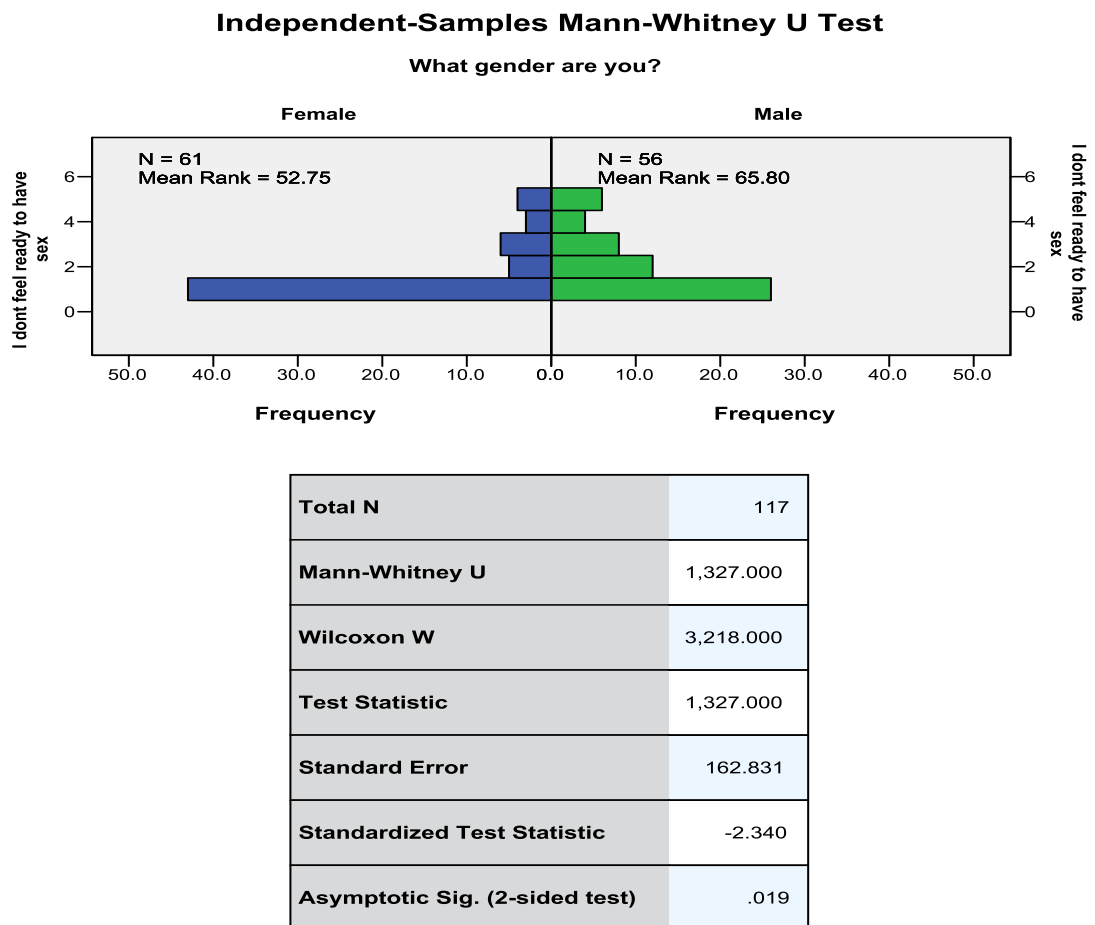
A statistically significant difference did exist between genders and ever discussed sexual matters with mother. (U: 759.000, $P \leq 0.001$). From these data, it can be concluded that male adolescents were less likely than females to discuss sexual matters with their mother.

Figure 4.15. Mann-Whitney U test for the difference between gender and ever discussion sexual matters with mother.



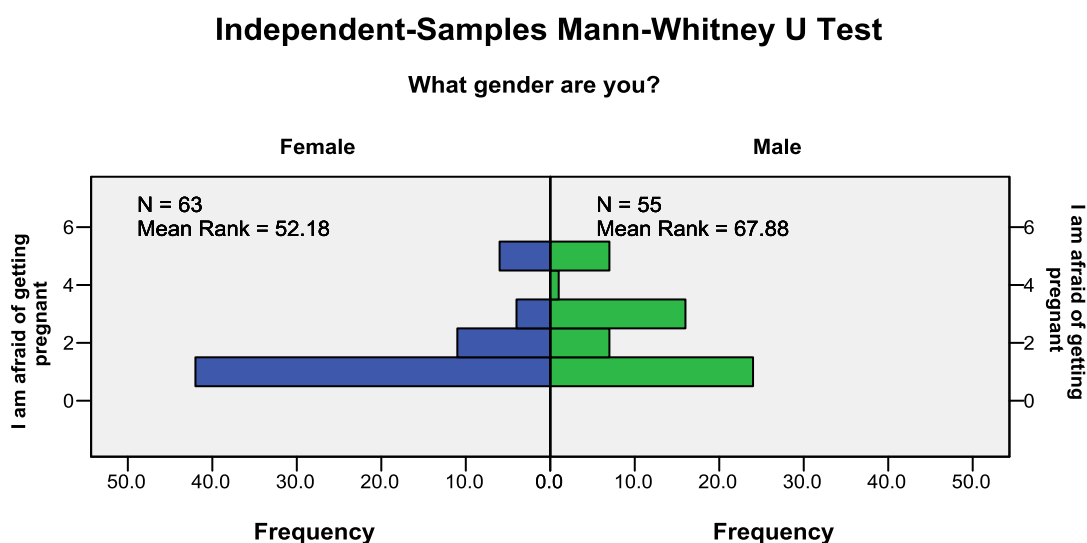
Similarly, there was a statistically significant difference between genders and not being ready to have sex (U: 1327.000, $P \leq 0.019$). From the mean rank of figure 4.16, it can be concluded that male adolescents were more likely to strongly agree that they do not feel ready to have sex than female adolescents.

Figure 4.16. Mann-Whitney U test for the difference between gender and I do not feel ready to have sex.



In the same vein, there was a statistically significant difference between gender and being afraid of pregnancy. (U: 1271.500, $P \leq 0.006$). From the data from figure 4.17 below, it can be concluded that male adolescents were more likely to be afraid of getting a girl pregnant, than females were of becoming pregnant.

Figure 4.17. Mann-Whitney U test for the difference between gender and afraid of getting pregnant/ getting a girl pregnant.



Total N	118
Mann-Whitney U	1,271.500
Wilcoxon W	3,287.500
Test Statistic	1,271.500
Standard Error	167.378
Standardized Test Statistic	-2.754
Asymptotic Sig. (2-sided test)	.006

From figure 4.18 below; there was a statistically significant difference between gender and adolescents believing there is nothing wrong with unmarried boys and girls having sexual intercourse if they love each other ($U: 2105,500$ $P \leq 0.035$). Thus, it can be concluded, that female adolescents were more likely to agree with the expression that there is nothing wrong with unmarried boys and girls having sexual intercourse if they love each other.

Figure 4.18. Mann-Whitney U test for the difference between gender and believing there is nothing wrong with unmarried boys and girls having sexual intercourse if they love each other.

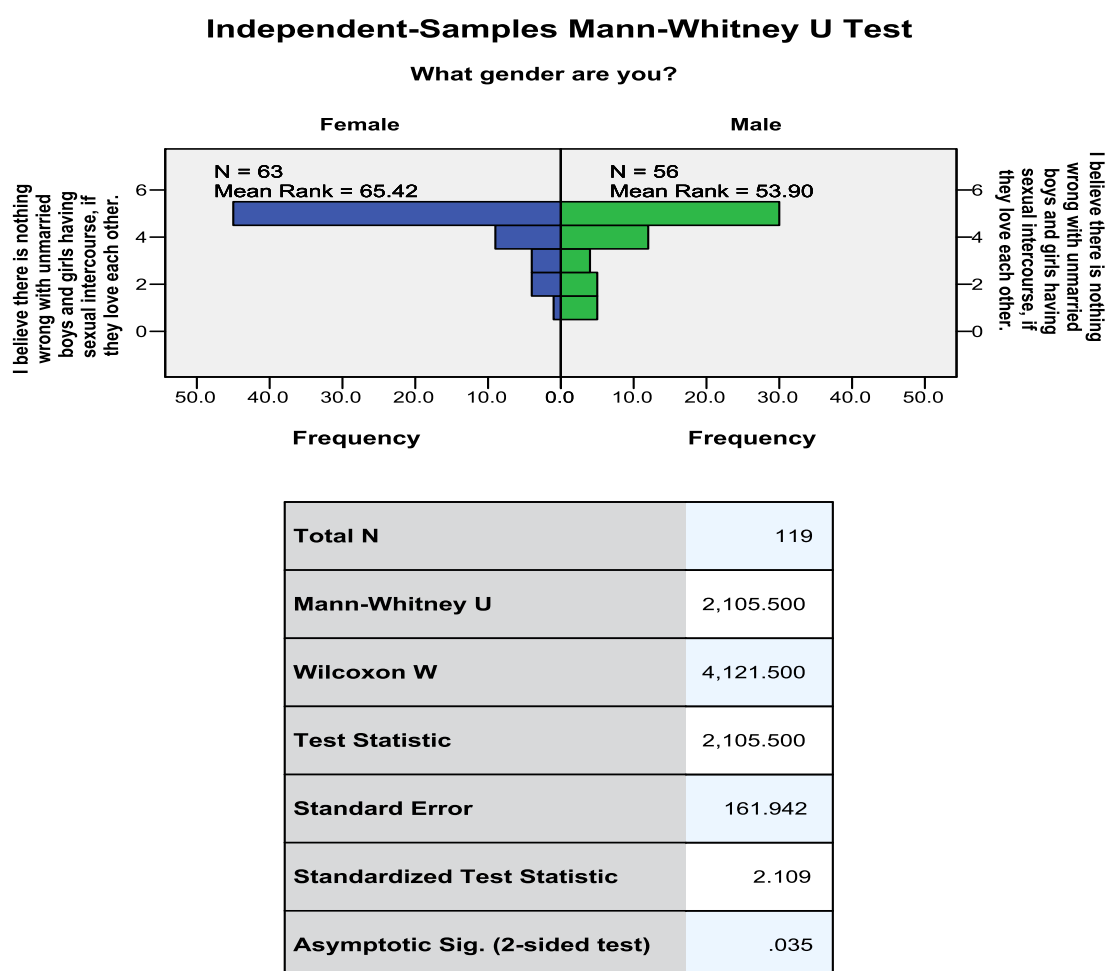
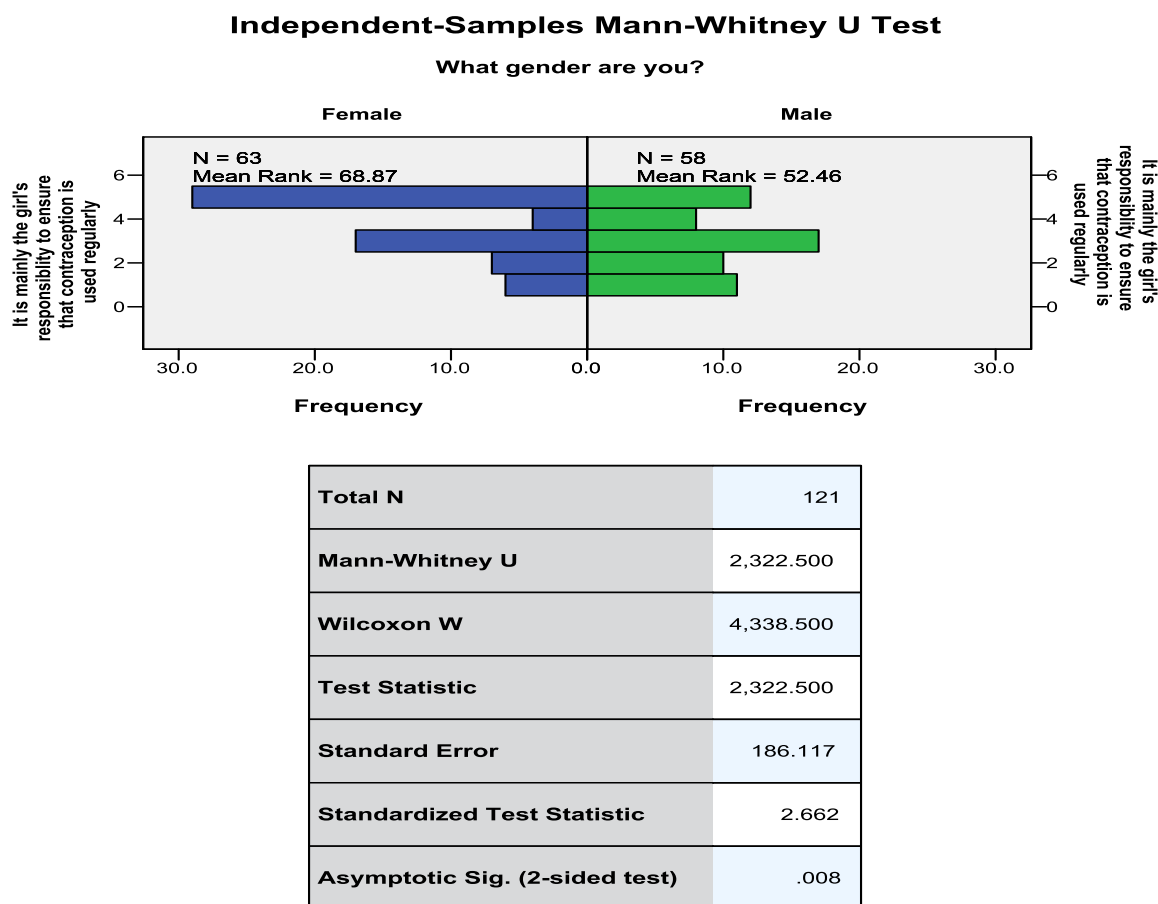


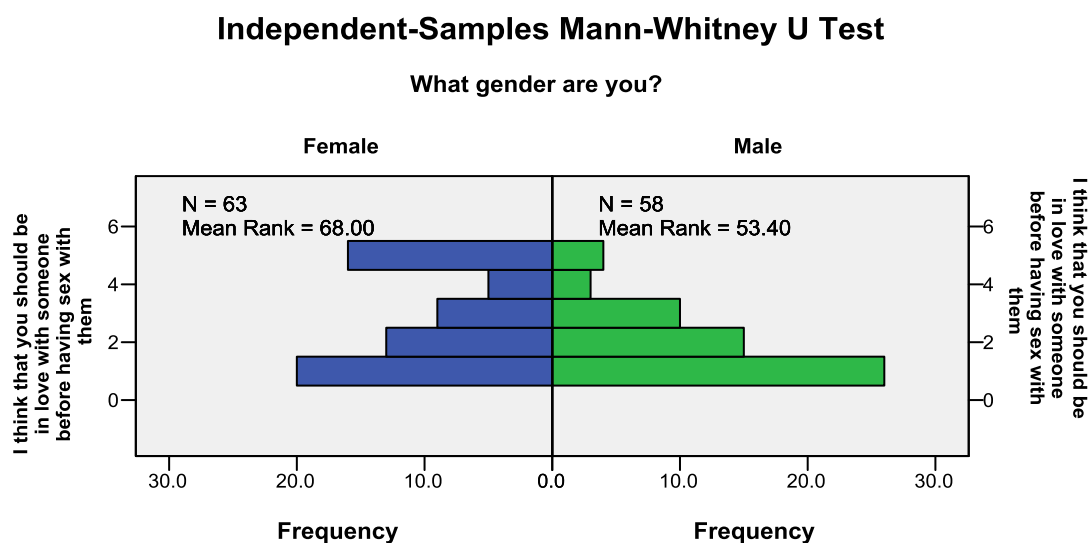
Figure 4.19, below shows that there was a statistically significant difference between gender and adolescent thought on whether it is mainly the girl's responsibility to ensure that contraception is used regularly (U: 2322,500 $P \leq 0.008$). From the data, it can be concluded, that female adolescents were more likely to agree with the expression that it is mainly the girl's responsibility to ensure that contraception is used regularly.

Figure 4.19. Mann-Whitney U test for the difference between gender and the statement, that ‘it is mainly the girl’s responsibility to ensure that contraception is used regularly’.



Furthermore, Figure 4.20 shows that there was a statistically significant difference between gender and the expression ‘I think that you should be in love with someone before having sex’ (U: 2,268,000 $P \leq 0.017$). Female adolescents were more likely than males to strongly agree that being in love was important before having sex.

Figure 4.20. Mann-Whitney U test for the difference between gender and the statement that I think that you should be in love with someone before having sex with them.

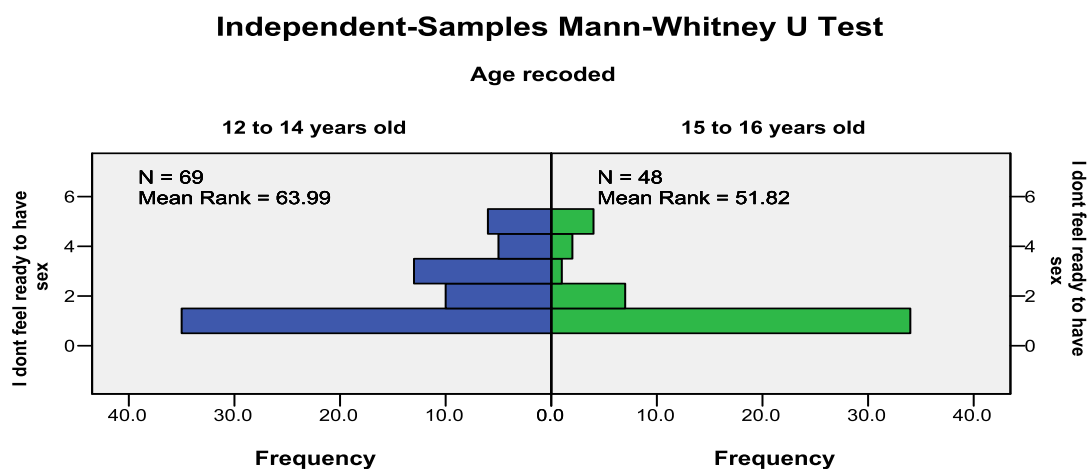


Total N	121
Mann-Whitney U	2,268.000
Wilcoxon W	4,284.000
Test Statistic	2,268.000
Standard Error	185.277
Standardized Test Statistic	2.380
Asymptotic Sig. (2-sided test)	.017

Age and other independent variables.

There was a statically significant difference between Age and adolescents not feeling ready to have sex ($U=1,311,500$, $P \leq 0.032$). From the data in figure 4.21, below it can be concluded that adolescents between the ages 12 to 14years old, compared to those aged 15 to 16years, are more likely to strongly agree with the expression 'I do not feel ready to have sex'. Age appears to be a predictor of readiness for sexual encounters

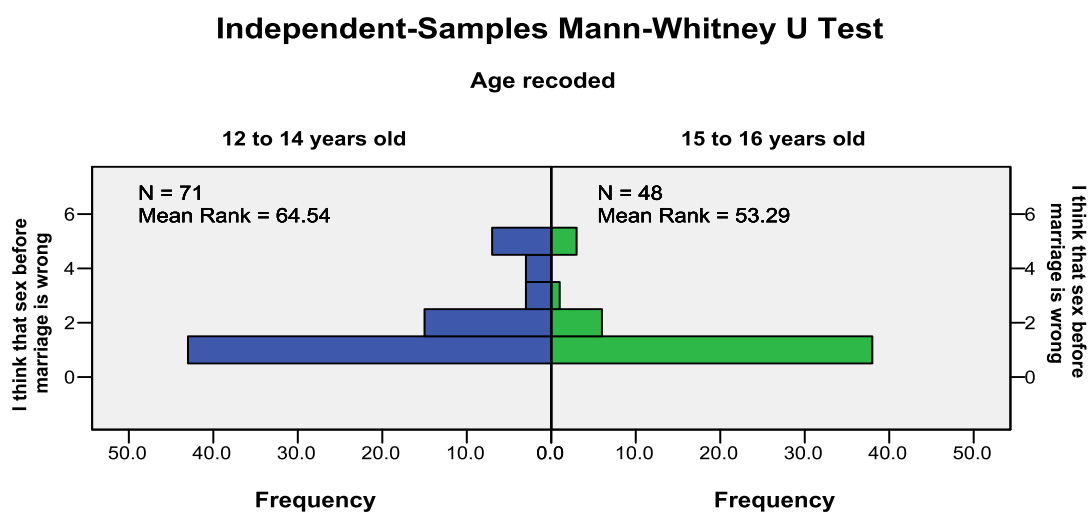
Figure 4.21. Mann-Whitney U test for difference between Age and I don't feel ready to have sex.



Total N	117
Mann-Whitney U	1,311.500
Wilcoxon W	2,487.500
Test Statistic	1,311.500
Standard Error	160.333
Standardized Test Statistic	-2.149
Asymptotic Sig. (2-sided test)	.032

There was a statistically significant difference between Age and I think sex before marriage is wrong, ($U=1,382,000$, $P \leq 0.034$). Thus, there is some evidence to show that adolescents of 12 to 14 years old compared to adolescents of 15 to 16 years were more likely to agree that sex before marriage is wrong.

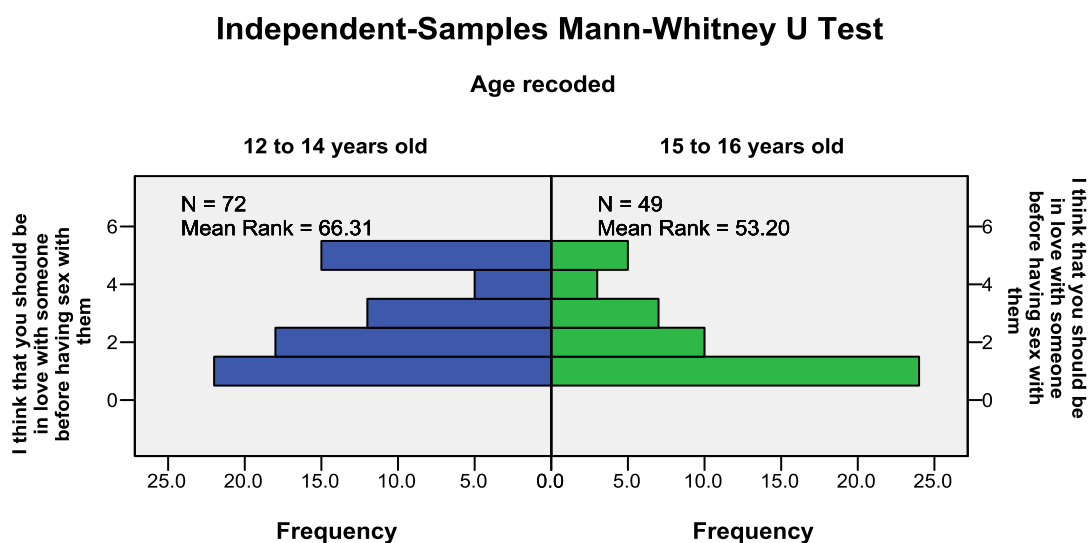
Figure 4.22. Mann-Whitney U test for difference between Age and I think sex before marriage is wrong.



Total N	119
Mann-Whitney U	1,382.000
Wilcoxon W	2,558.000
Test Statistic	1,382.000
Standard Error	152.068
Standardized Test Statistic	-2.117
Asymptotic Sig. (2-sided test)	.034

In addition, there was a statistically significant difference between Age and I think that you should be in love with someone before having sex with them ($U=1,382,000$, $P \leq 0.036$). Thus, it can be concluded that younger adolescents thought that one should be in love before having sexual relations. This thought may perhaps change as they grow older.

Figure 4.23. Mann-Whitney U test for difference between Age and I think that you should be in love with someone before having sex with them.

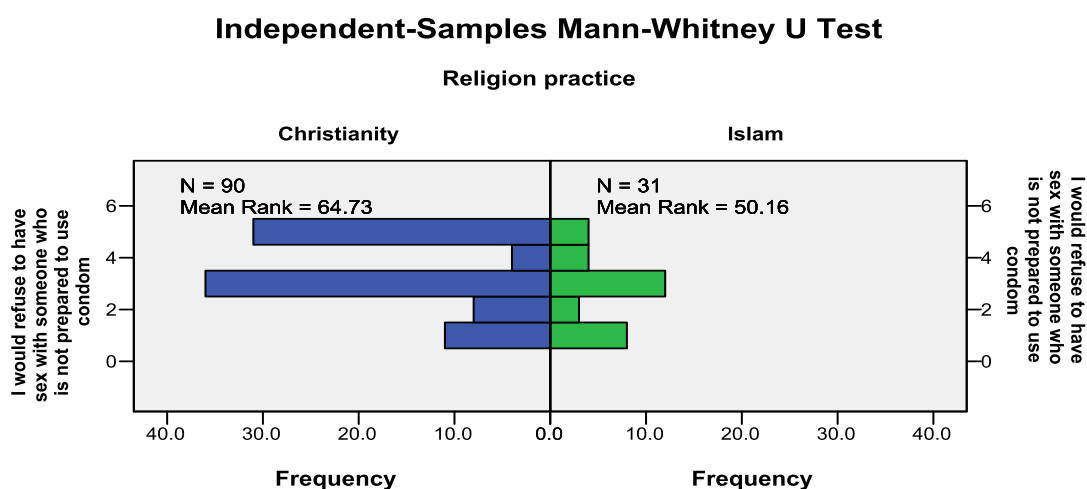


Total N	121
Mann-Whitney U	1,382.000
Wilcoxon W	2,607.000
Test Statistic	1,382.000
Standard Error	182.055
Standardized Test Statistic	-2.098
Asymptotic Sig. (2-sided test)	.036

Religious practice and independent variables.

There was a statistically significant difference between religion and ‘I would refuse to have sex with someone who is not prepared to use a condom, (U=1,059,000, $P \leq 0.036$). Thus, it can be concluded from figure 4.23 below, that adolescent students who identified as Muslim were more inclined to disagree with this statement.

Figure 4.23. Mann-Whitney U test for difference between religion practice and I would and refuse to have sex with someone who is not prepared to use a condom.

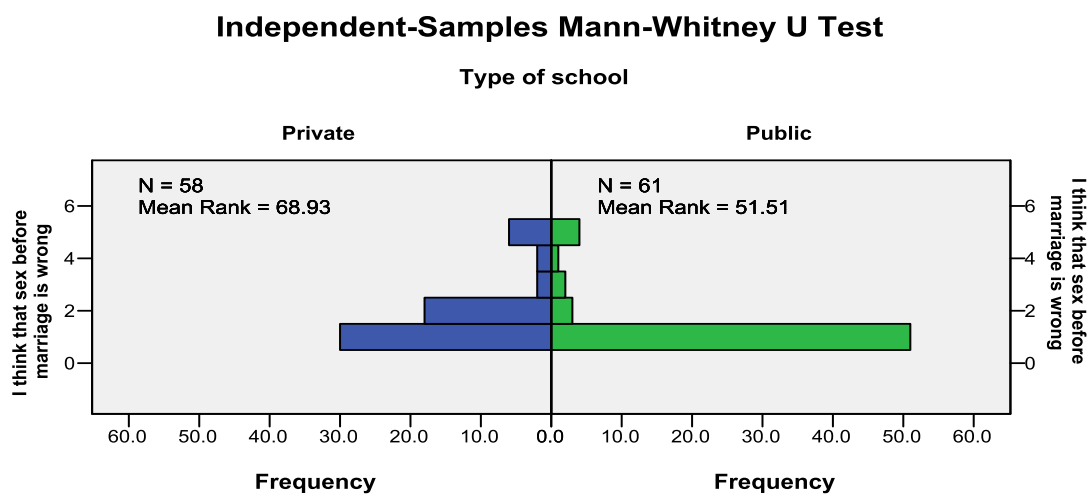


Total N	121
Mann-Whitney U	1,059.000
Wilcoxon W	1,555.000
Test Statistic	1,059.000
Standard Error	160.531
Standardized Test Statistic	-2.093
Asymptotic Sig. (2-sided test)	.036

School type and independent variables

There was a statistically significant difference between school type and adolescent thought that sex before marriage is wrong, ($U=1,251,000$, $P \leq 0.001$). Thus, from the data, it can be concluded that adolescents who attend private school are more likely to agree that sex before marriage wrong. This may be attributed to socioeconomic status and family type the adolescent has come from.

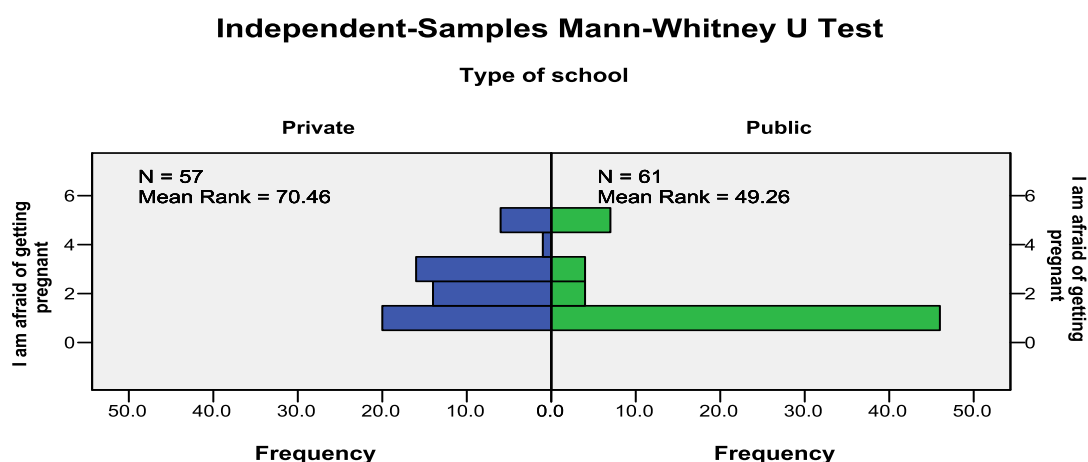
Figure 4.24. Mann-Whitney U test for difference between school type and thought that sex before marriage is wrong.



Total N	119
Mann-Whitney U	1,251.000
Wilcoxon W	3,142.000
Test Statistic	1,251.000
Standard Error	154.941
Standardized Test Statistic	-3.343
Asymptotic Sig. (2-sided test)	.001

There was a statistically significant difference between school type and adolescent fear of pregnancy ($U=1,114,000$, $P \leq 0.000$). Thus, it can be concluded that adolescents who attend private school fear pregnancy more compared to those who attend public school.

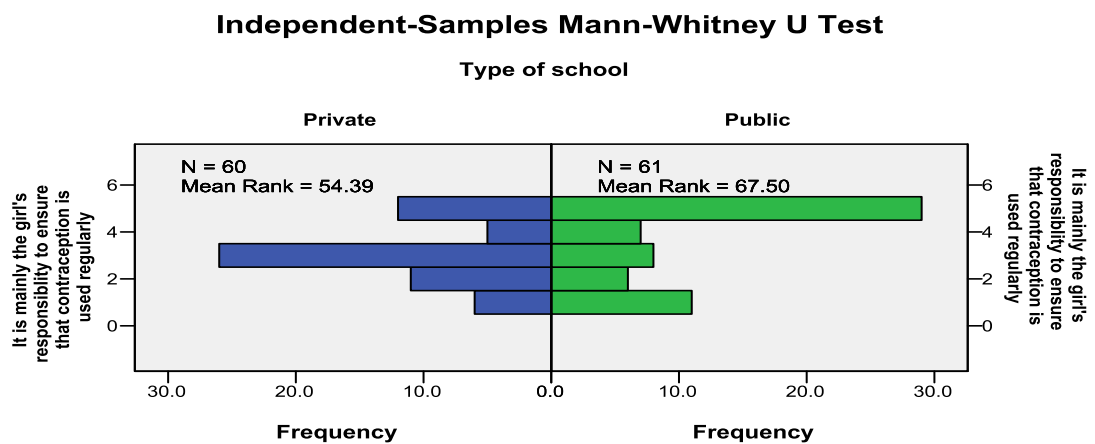
Figure 4.25. Mann-Whitney U test for difference between school type and I am afraid of getting/getting a girl pregnant.



Total N	118
Mann-Whitney U	1,114.000
Wilcoxon W	3,005.000
Test Statistic	1,114.000
Standard Error	167.668
Standardized Test Statistic	-3.725
Asymptotic Sig. (2-sided test)	.000

There was a statistically significant difference between school type and the thought that it is mainly the girl's responsibility to ensure that contraception is used regularly, ($U=2,226,500$ $P \leq 0.033$). From Figure 4.26, it can be concluded that adolescents from public school are more likely to agree that it is mainly the girl's responsibility to ensure that contraception is used regularly than adolescents from private schools. This difference reflect peer, family or school influences.

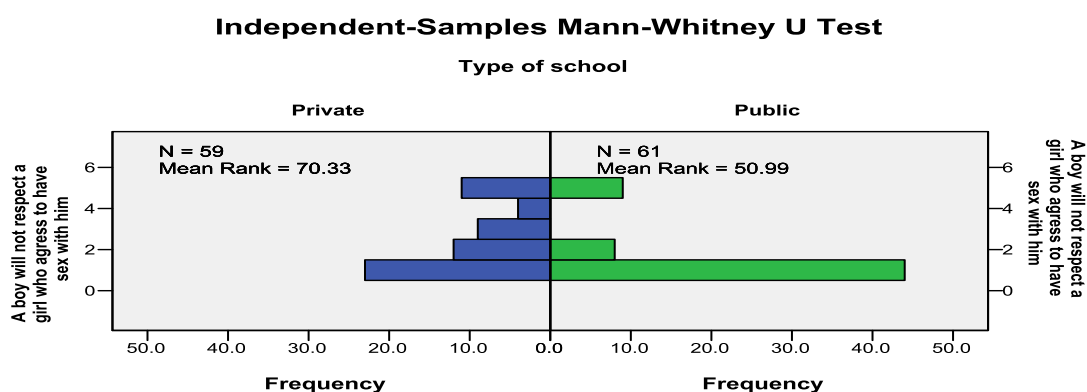
Figure 4.26. Mann-Whitney U test for difference between school type and it is mainly the girl's responsibility to ensure that contraception is used regularly.



Total N	121
Mann-Whitney U	2,226.500
Wilcoxon W	4,117.500
Test Statistic	2,226.500
Standard Error	186.270
Standardized Test Statistic	2.129
Asymptotic Sig. (2-sided test)	.033

There was a statistically significant difference between school type and the belief that a boy will not respect a girl who agrees to have sex with him, ($U=1219, 500$ $P \leq 0.001$). Adolescents from private schools have less respect for girls willing to have sex, than those attending public schools.

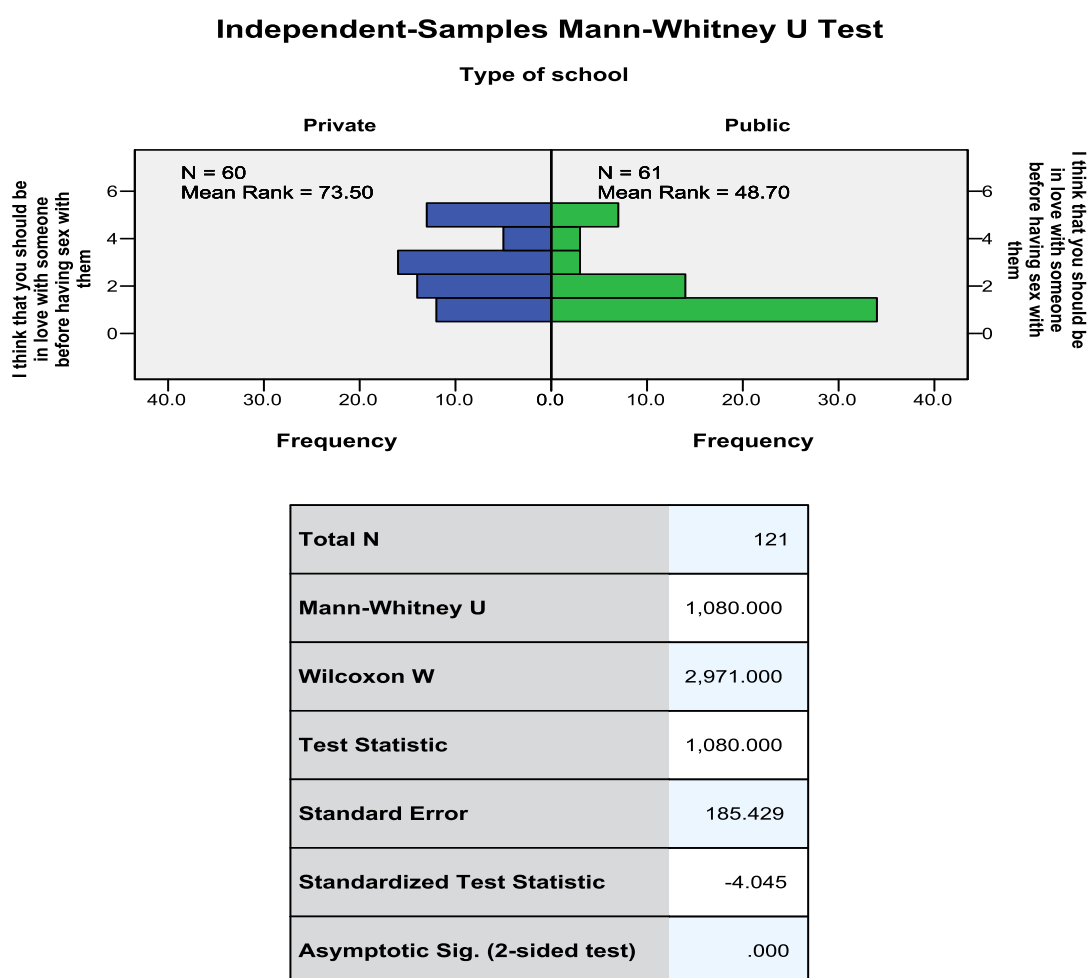
Figure 4.27. Mann-Whitney U test for difference between school type and the belief that a boy will not respect a girl who agrees to have sex with him.



Total N	120
Mann-Whitney U	1,219.500
Wilcoxon W	3,110.500
Test Statistic	1,219.500
Standard Error	172.113
Standardized Test Statistic	-3.370
Asymptotic Sig. (2-sided test)	.001

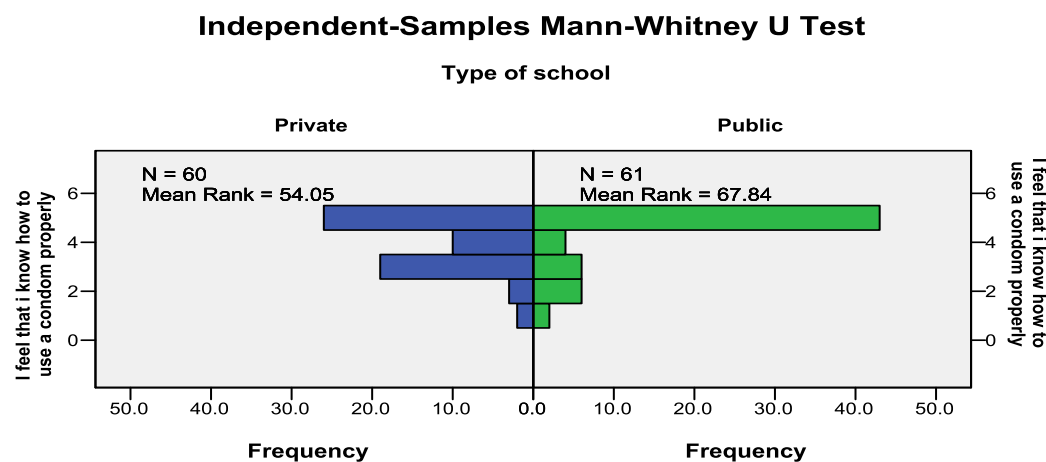
There was a statistically significant difference between school type and the thought that you should be in love with someone before having sex with them. ($U=1080,000$ $P \leq 0.000$). From Figure 4.28, adolescents who attend private school compared to those in public schools are more likely to agree with this statement.

Figure 4.28. Mann-Whitney U test for association between school type and I think that you should be in love with someone before having sex with them.



There was a statistically significant difference between school type and the statement that ‘I know how to use a condom properly’, ($U=2,247.000$ $P \leq 0.016$). Thus, it can be concluded that public school adolescents are more informed on how use to condoms properly’ than those in a private school.

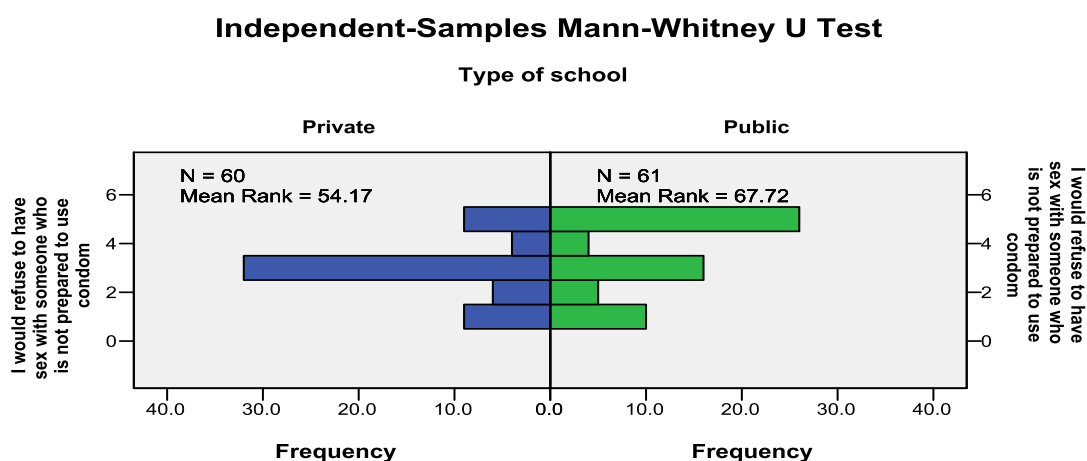
Figure 4.29. Mann-Whitney U test for difference between school type and I feel that I know how to use a condom properly.



Total N	121
Mann-Whitney U	2,247.000
Wilcoxon W	4,138.000
Test Statistic	2,247.000
Standard Error	172.944
Standardized Test Statistic	2.411
Asymptotic Sig. (2-sided test)	.016

There was a statistically significant difference between school type and refusal to have sex with someone who is not prepared to use a condom ($U=2,240.000$ $P \leq 0.026$). From Figure 4.30, adolescents from the public school are more likely than their private school peers, to disagree strongly over sex with someone who is not prepared to use a condom.

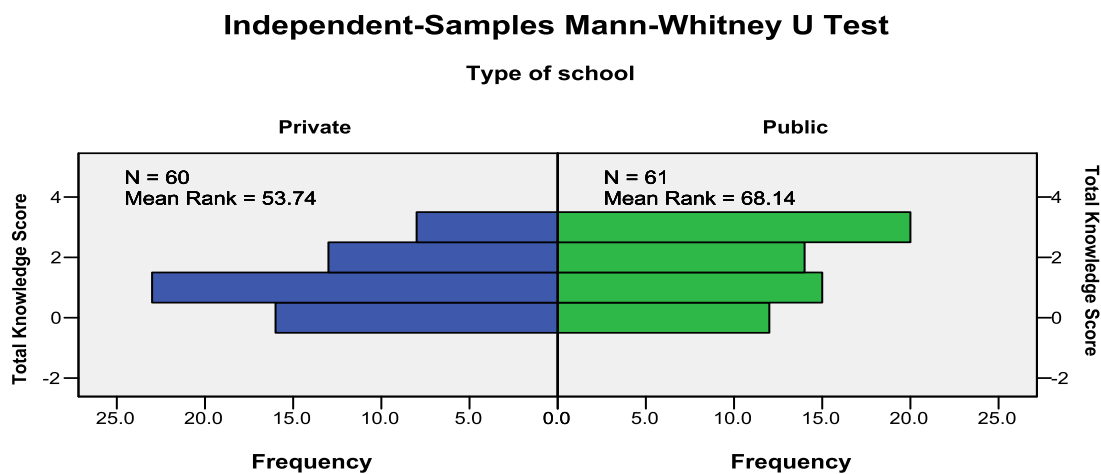
Figure 4.30. Mann-Whitney U test for differences between school type and I would refuse to have sex with someone who is not prepared to use a condom.



Total N	121
Mann-Whitney U	2,240.000
Wilcoxon W	4,131.000
Test Statistic	2,240.000
Standard Error	183.864
Standardized Test Statistic	2.230
Asymptotic Sig. (2-sided test)	.026

There was a statistically significant difference between school type and adolescents knowledge score on sexual matters, ($U=2,265.000$ $P \leq 0.019$). Thus, it can be concluded from Figure 4.31, that adolescents from the public school are more likely to be more knowledgeable about sexual matters than adolescents in private schools.

Figure 4.31. Mann-Whitney U test for difference between school type and adolescent total knowledge score on sexual matters.



Total N	121
Mann-Whitney U	2,265.500
Wilcoxon W	4,156.500
Test Statistic	2,265.500
Standard Error	186.344
Standardized Test Statistic	2.337
Asymptotic Sig. (2-sided test)	.019

4.5. CLUSTER ANALYSIS OF ROUND 1.

Up to this point, analysis has focused upon analysing differences and associations between variables. In order to use the first set of survey results to inform qualitative sampling a Hierarchical cluster analysis (case-based) was performed. The rationale behind this is to be able to identify relatively homogeneous groups of participants to be interviewed and compared. The cluster labels came from the characteristics of the participants identified.

Clustering entails categorising people on the basis of their correspondence on the chosen variables. There are various different types of cluster analysis. However, this research used Ward's method of hierarchical agglomerative cluster analysis (See figure 4.33), (Clatworthy, et al 2005). Hierarchical agglomerative cluster analysis entails a chain of steps, first individual cases (people) start as individual clusters and step-by-step the most analogous clusters are united together and finally resulting in one or two clusters containing all cases or respondents, depending on the outcome variable. Cluster analysis can help by identifying groups of people that may benefit from specific intervention or services (Clatworthy, et al 2005).

For the purpose of this thesis, the results of the cluster analysis were based on the following 'outcome' variables:

- Able to discuss sexual matters with mother;
- Able to discuss sexual matters with father;
- Ever had a boyfriend/girlfriend?
- Agreement with the statement that 'there is nothing wrong with sex before marriage'
- 'I enjoy sex'

It was found that a two-cluster solution worked best: the two clusters were named 'The home-oriented adolescents' and the 'peer-oriented adolescents.' These two clusters were used to determine who was interviewed for the qualitative part of the research.

Definition according to this thesis,

The home-oriented adolescents: These are a group of adolescents that solely depend on their parent for accurate and precise information. Though they may receive information from their peers, still they check the authenticity of such information from their parents. They tend to listen and believe more in whatever information their

parent(s) give them, especially on important matters. This category of adolescents will prefer to listen and receive information regarding sexual matters from their parents rather than their peers.

The peer-oriented adolescents: These are a group of adolescents in which information from peers matters more than that from their parents to some extent. That is, they listen to their peers more than their parents, even when the parents are available. Such adolescents take cues from his or her peers on how to act, to be, to think and for what is important to them. Also, they tend to believe in whatever information their peers give them. This category of adolescents will prefer to seek information regarding sexual matters from their peers rather than their parents.

The researcher interviewed a variety of boys/girls from both clusters one (home-oriented) and two (peer-oriented), expressed a willingness to be interviewed. The researcher considered other matters for example rural/urban / tribe/religiosity / family affluence etc. in the spirit of ‘maximum variation sampling’, but sampling was primarily guided by cluster membership.

Figure 4.32. Bar chart showing the two cluster solution.

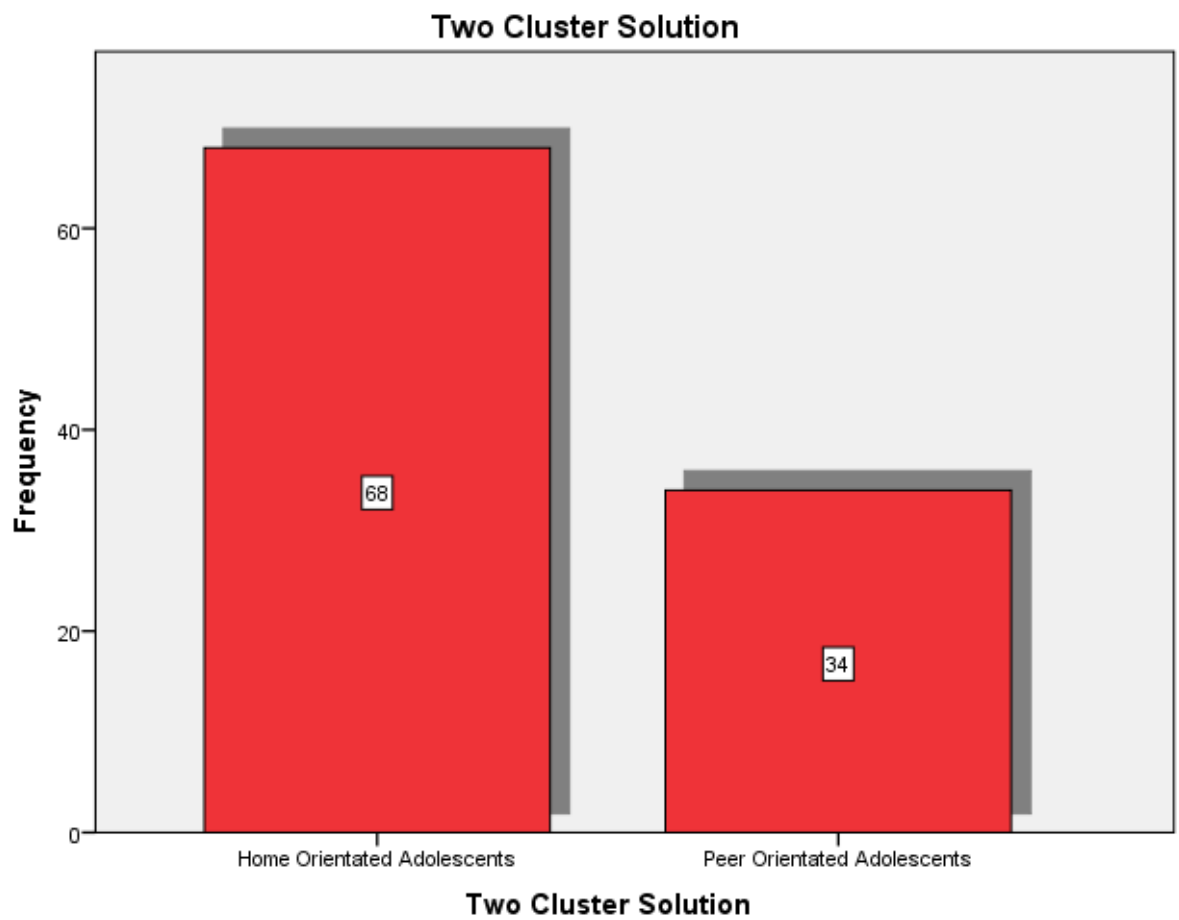
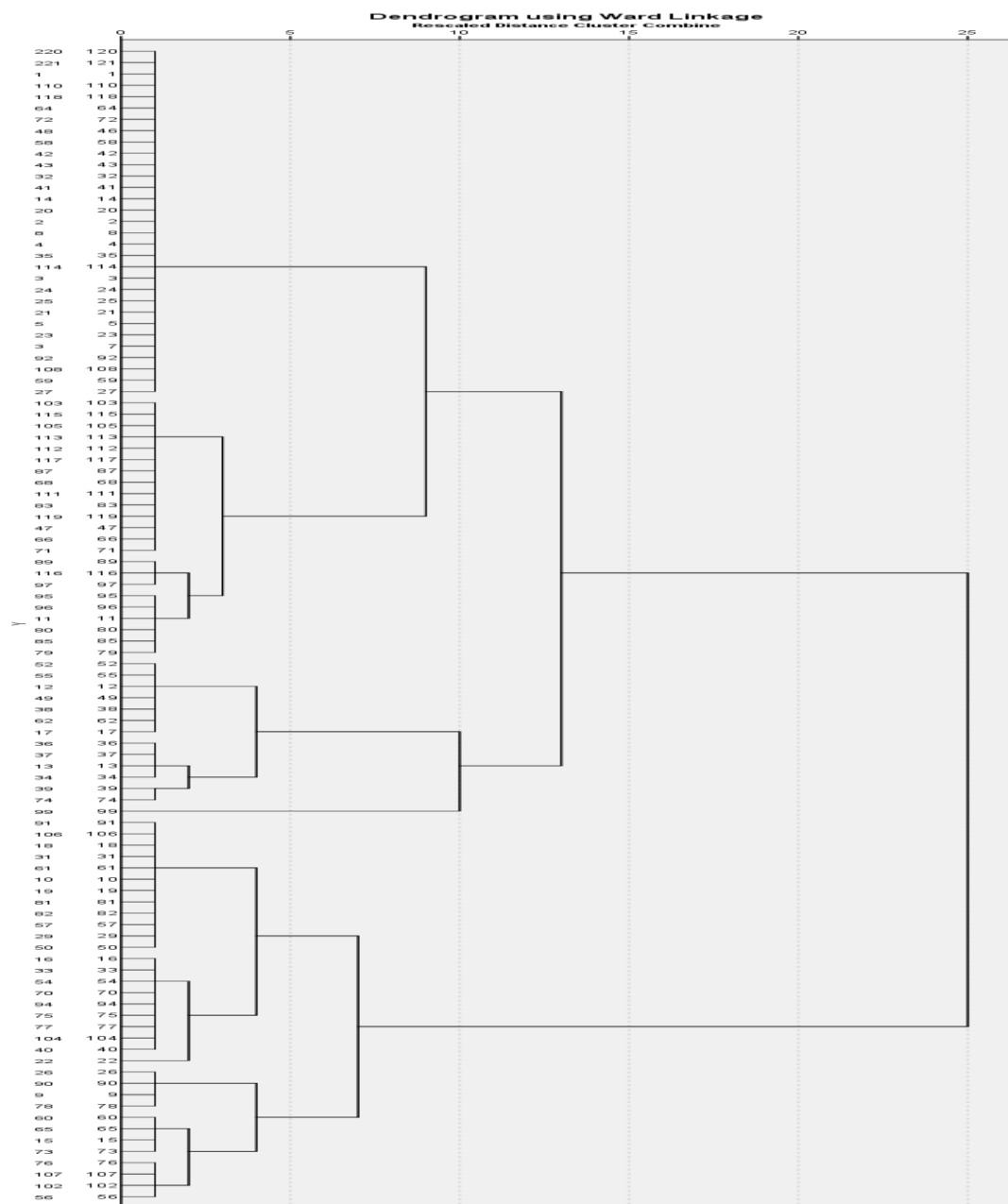


Table 4.6. The two cluster groups and the differences between the groups.

HOME ORIENTED ADOLESCENTS	PEER ORIENTED ADOLESCENTS
Cluster 1	Cluster 2
More likely to discuss sexual matters with their mother/father.	Less likely to discuss sexual matters with their mother/father (U = 596.00, p < 0.000)
Equally likely to have had a boyfriend/girlfriend.	
Less likely to agree with statement 'there's nothing wrong with sex before marriage'	More likely to agree with statement 'there's nothing wrong with sex before marriage' (U = 1633.5, p<0.000).
More likely to agree with the statement that 'girls/boys should remain a virgin until married (U = 927.5, p<0.048).	Less likely to agree with the statement that 'girls/boys should remain a virgin until married.
Less likely to agree with the statement that 'sex before marriage is ok as long as contraception is used' (U = 1466, p<0.014).	More likely to agree with the statement that 'sex before marriage is ok as long as contraception is used' (U = 1466, p<0.014).
Less confident about condom use	More confident about condom use (U=1432, p<0.028).
Tend to be Female (Chi-square = 6.375 with 1 df. P<0.0012).	Tend to be male
Younger by about 9 months (t=-2.823 with 100 df. P<0.006). Mean age difference = 0.79 years 95% CI = 0.23-1.35 years.	Older by about 9 months
Less likely to have attended sex education classes at school (Chi-square = 3.833 with 1 df. P<0.05).	More likely to have attended sex education classes at school.

Participants were allocated a unique identifying number, and neither the researcher nor school personnel was able to identify individuals from completed survey documents. The cluster analysis was used to identify which respondents belong to each cluster (Home and Peer-oriented).

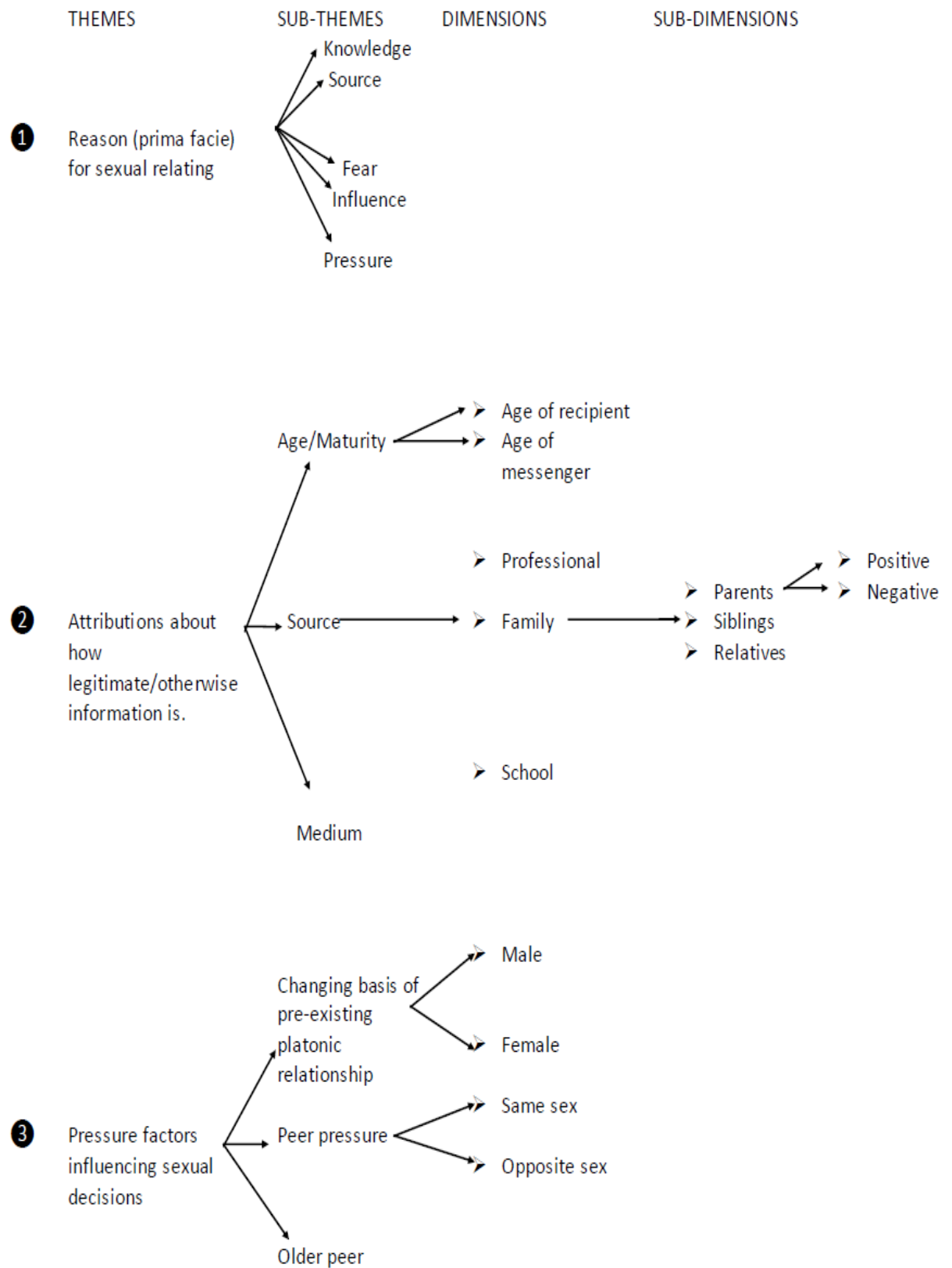
Figure 4.33. Ward's method used for the hierarchical agglomerative cluster analysis for this study.



4.6. QUALITATIVE DATA ANALYSIS.

Thematic analysis was used to identify emerging themes from the qualitative raw data of this study. Thematic analysis is a method for identifying, analysing and reporting patterns within data (Braun, and Clarke, 2006). Thematic analysis was adopted for the analysis of the qualitative data because it gives room for a robust, comprehensive and multifaceted explanation of the data.

Figure 4.34. Themes, sub-themes, dimensions and sub-dimensions emergent from the thematic analysis.



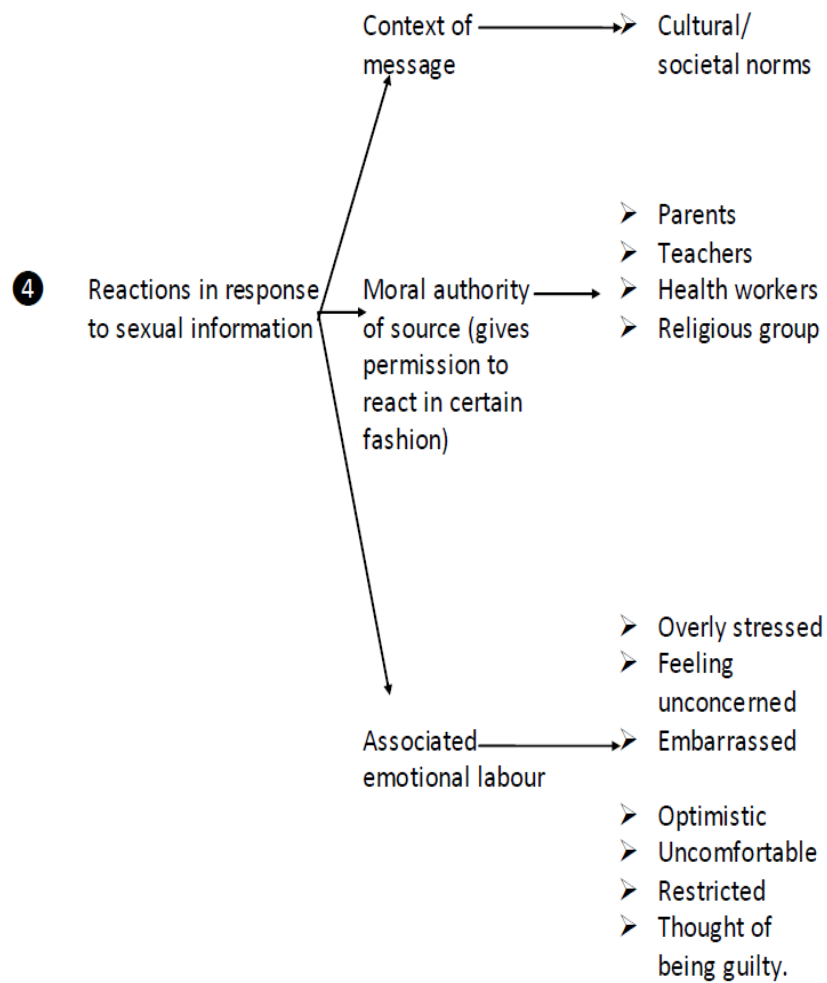


Figure 4.34 (continued). Themes, sub-themes, dimensions and sub-dimensions emergent from the thematic analysis.

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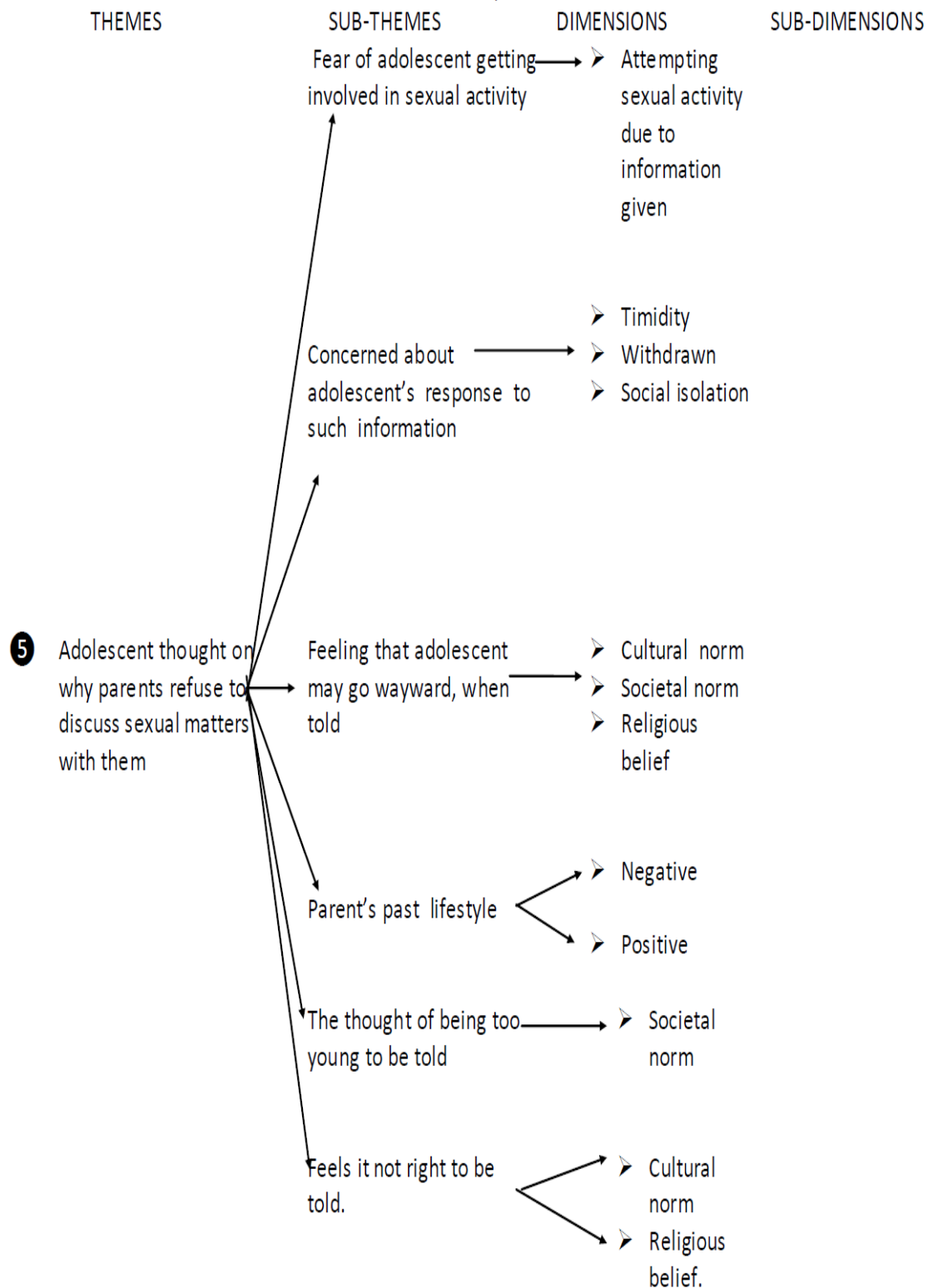


Figure 4.34 (continued). Themes, subthemes, dimensions and sub-dimensions emergent from the thematic analysis.

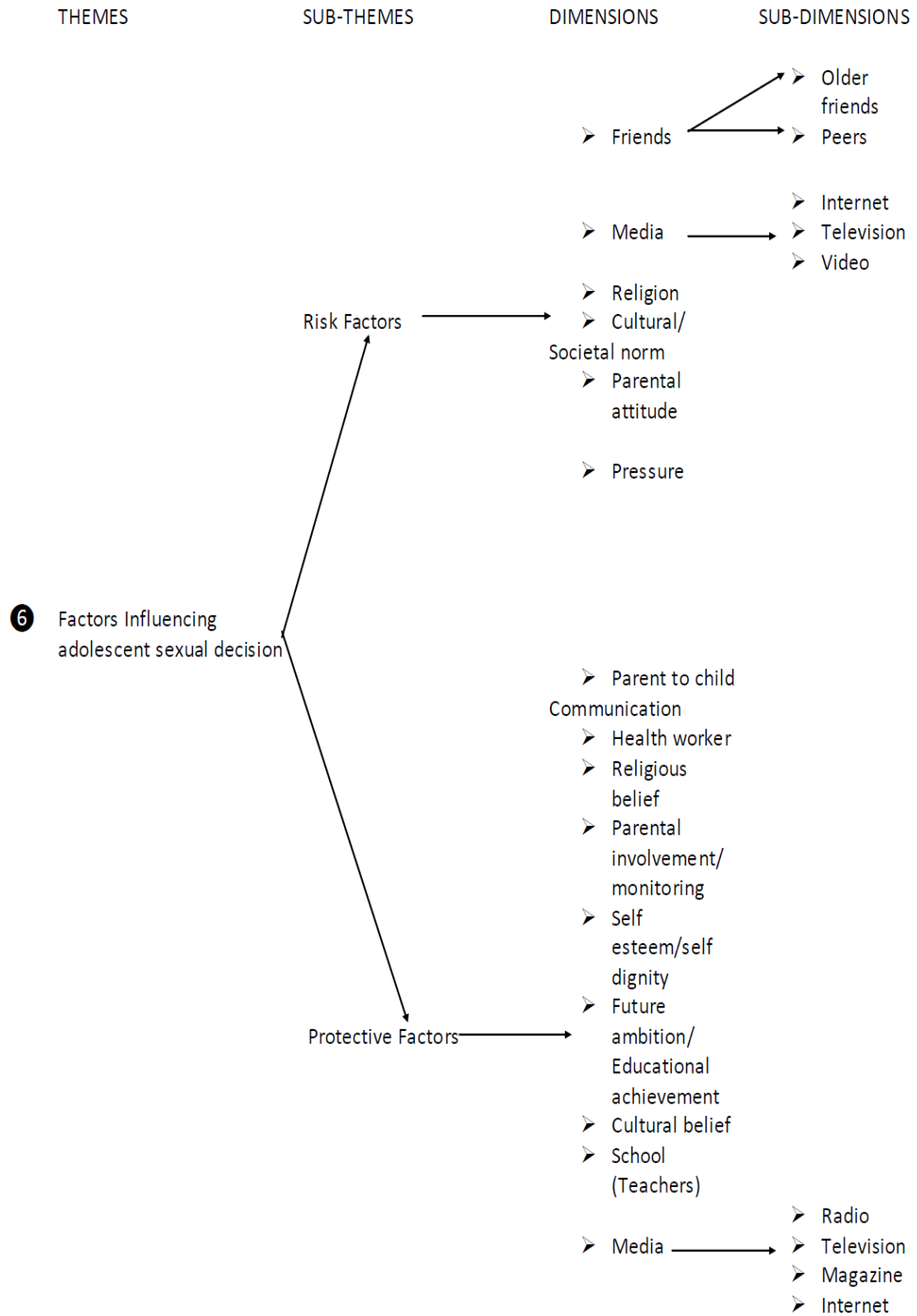
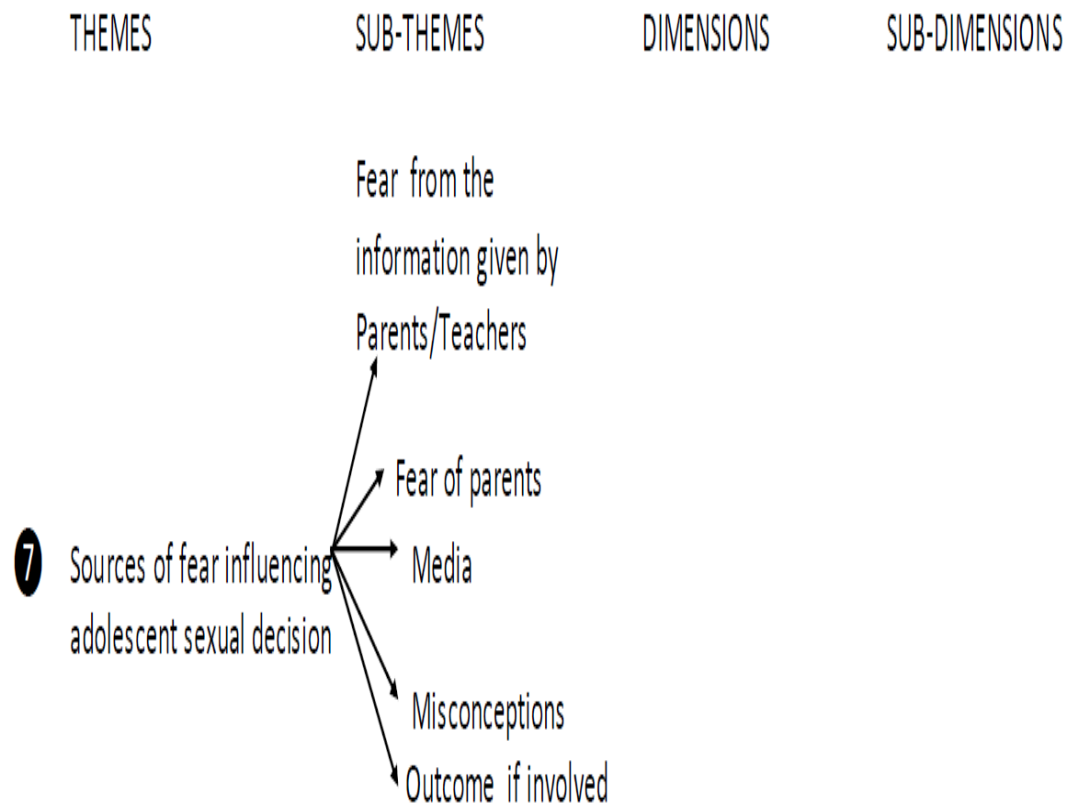


Figure 4.34 (continued). Themes, subthemes, dimensions and sub-dimensions emergent from the thematic analysis.



4.6.1 Thematic Analysis.

The emerging themes from this study were categorized under two headings and are characterised under these headings:

- A. The Rational/ Situational Context
- B. Identity Work/ Moral Accounting (reputation)

A. The Rational/ Situational Context.

This section describes the justification behind an event or an occurrence. It also highlight the possible behaviours and actions associated with a particular situation. In relation to this study, the rational/ situational context describes the justification for the adolescent sexual decision and behaviour exhibited towards SRH matters. These have been categorized into four sub-headings:

- Attribution
- Pressure
- Factors influencing sexual decision-making
- Source of fear influencing adolescent sexual decision.

4.6.2. Attributions about how legitimate/otherwise information is:

These are the factors that determine adolescent attitudes to sexuality information. Bleakley et al, (2009) confirm that sources of information are associated with diverse kinds of fundamental beliefs regarding sex. This study reveals that adolescents will accept or welcome information about sexuality or sexual matters if some additional factors are put into consideration. Data revealed that adolescents' reactions to information given on sexual and reproductive health are determined by their adolescent age/ maturity as well as the age and maturity of the person providing the information. The source from where the information comes, for instance health professionals, family and school, determine adolescent response. Similarly the channel of information also influences adolescent reaction to information. The qualitative findings are discussed in relation to the literature. Guha, (2013) revealed that adolescents are more likely to follow the advice and counsel of their parents regarding sex and sexuality than other external sources such as peers or media, only if their

parents are free and open with them about the topics related. Parents are perhaps seen to be more mature and respected. Therefore, health professionals and schools should recognize and support the significant position of parents in sexual socialization (Shtarkshall et al, 2007).

Age/maturity: The interviews revealed how age and level of maturity influences adolescent's acceptance of information on sexuality. However, there still remains a very contentious issue, in various countries especially with regard to the age in which children ought to start receiving sex education. The amount of detail that can be given on different sexuality topics does not have a consensus (Guha, 2013). The datum (1RT:17-19) revealed that the participant felt too young to receive such detailed information on sexuality, although 'too young' is not defined. Thus, older adolescents may be more likely to accept or comprehend information regarding their sexuality and also see the relevance of such information. The older a child becomes the more curious they tend to be, especially about their body changes and sexual matters. Therefore, consideration of male and female (both younger and older) adolescents' needs (and wants) in relation to sexual knowledge within particular sex-gender cultures, would help to establish the suitable timing (that is, age appropriateness) and approach of interventions in diverse communities (WHO, 2011).

♂ 1RT:17-19 (Home oriented)

P: Well... I felt it was for my good, but for the first time I felt, why this is information very important, because I thought I was still young and what could have probably happened, but later I realized that it is very important.

Age of the recipient: Data from the interviews likewise revealed that the age of the recipient influences the level at which information is welcomed or can be comprehended. Datum (5RT: 523) shows that adolescent received information on sexual matters for the first time when they were in their early adolescence (10-13years). Findings reveal that respondents felt too young and uncomfortable receiving information on sexual matters at that age, although this may be because the information was coming from his parent (mum), and perhaps, the reaction might be different if the information was coming from a friend or peer. The 'I am too young', thought influenced their reactions to sexual information. However, the situation is further

exacerbated by many Nigerian parents and adults who believe that sexuality education will only expose adolescents to sexual activities such a view seems to be a more general barrier in other parts of the world (WHO, 2011). However, as the respondents grew, they saw the relevance of such information and the desire to know more. This example was from a home-oriented adolescent, whose parents were the major source of information, with whom might not be comfortable with. Gruber and Grube, (2000), also highlighted that the age or stage of adolescent development also influences their comprehension and interpretation of sexual content or information. Therefore, there is a need to provide age-appropriate sexual health information and skills, particularly those of making decisions in interpersonal relations and creative as well as critical thinking in the course of sexuality education. These factors have the potential to positively influence the transition to adulthood (Monisola and Oludare, 2009).

♂ 5RT: 523 (Home oriented)

P: when I was 13, it was weird, because I never expected my mum to like talk about such thing (information.) at that age, because I was too young.

Age of the messenger: The interviews revealed that adolescents were comfortable receiving information on sexual and reproductive matters from people older than themselves and who are much more experienced. Not only that, they prefer and will accept information coming from such sources. Thus, the age of the messenger in a way influences the extent to which adolescents accept information on sexual matters. This may be due to the high regard and respect young people have for moral authority. Also, it may be that they think mature people have the ability to be confidential and give clarity to their curiosity, as they are assumed to be more knowledgeable and experienced. Respondent (7RT:555-557) reported that he listens to his brother's friends and learns from them because he assumed they are through with their tertiary education and therefore should have acquired a lot of experience while in school. However, respondent (8RT:677) not only preferred someone older than him, but also someone he feels is qualified enough, although his meaning of the word 'qualified' was not stated. Despite this, the central role of peer norms and peer influence on adolescent sexual behaviour cannot be overlooked, as peers play a crucial role in sexual socialization among adolescents (Peçi, 2017)

♂ 8RT:677 (Home oriented)

I prefer someone qualified enough, someone older than me,

♂ 7RT:555-557 (Peer oriented)

P: Because then they have left school already, they are almost through with their university, so when they talk at times I listen because It is not as if they are my friends, they are my brother's friends.

Source: The major preferred sources of information on sexuality were health professionals, family and school. These sources are seen as having moral authority and influence over adolescent. Therefore the source of sexuality information may determine the level at which adolescents accept information as accurate and or genuine. This finding is consistent with the study of Udigwe et al., (2014) who identified that most adolescents indicated their increased desire to receive correct sexual education or information, preferably from their parents, teachers and health workers.

Health professionals: Health professionals were seen as people who are experienced and are qualified to give information. Data from the interviews revealed that adolescent believe that health practitioners know better than their parents and will impart accurate facts. In the same vein, respondent (7RT: 544-546) reported that he prefers to receive sexuality information from a person who has studied to be a professional in this field of health, that is a nurse, doctor or public health practitioner. This response concurs with respondent (IRT: 46-48) who also acknowledged the role and the importance of receiving sex education from health practitioners. However, Ahanonu, (2014) revealed that the judgmental attitude and unfriendly attitude of some health workers have restricted young people from seeking information from them.

♂ IRT: 46-48 (Home oriented)

P: Yes, I think it will be better to hear it from a health practitioner because he or she knows many things about it that our parents might not know, so he/ she will go more into it than our parents.

♂ 7RT: 544-546 (Peer oriented)

P: At times.... Videos are okay. But I prefer somebody that has studied it as a course and will call all of us and talk to us about it. It can be mixed, but in my former school, we used to do male, female separate, but have been used to male but anyone... male or female is okay.

Family: Family has a great influence on the life of a child while growing. It is the unit of care that has a major role in addressing adolescent problems. The family is the first school a child lives and learns from while growing. Families are the first contact and first influence on a child before societal influences. Knowledge is acquired by what is seen, heard and taught in the family. Similarly, the family and its members can be a powerful source of support for developing adolescents, especially in offering good communication, relationship skills and modelling socially acceptable behaviours. However, the family can also be a problematic environment for a child, when support, may be lacking or when negative adult behaviours such as, smoking, multiple sexual partnering, heavy drinking or and transactional sex are present (Aufseeser et al., 2006). There are various forms of family dynamics, such as the pattern of relating, or interactions between family members which determine the types of bond and levels of interaction that exist. This corroborates the study of Muyibi et al., (2010) that stated that the family is a child's primary socializing agent and that adolescent risk behaviour can be influenced by modifiable family influences, such as effective parenting (nurturing and supportive, with apparent and unswerving discipline) and positive modelling from siblings.

Parent: Despite the fact that some adolescents do not prefer to receive information on sexual matters from parents, the interviews reveal that some adolescents receive information from this source and believe whatever information is given (parent-oriented adolescent), though, this may be determined by the type of parent-adolescent relationship that exists, whether healthy or not. Unfortunately, in sub-Saharan Africa, many parents demur from discussing particular topics with their children, for example, topics on sexuality because they feel embarrassed and experience discomfort when doing so (Turnbull, 2012; Bastien, 2011). Datum 5RT:427-428 shows that adolescents may feel comfortable receiving sexuality information from parents. Thus, a need for parents' openness and honesty about sexual matters with their children as well as an apparent close and trusting relationship between parents and their children appears beneficial. Parents may need help with knowledge on sexual matters and trained in

appropriate communication styles that are helpful when discussing sexual matters with their children (Turnbull, 2012). Furthermore, evidence from the data depicted mothers as the preferred sexuality communicators and often fathers think it is a woman's duty to do so. This finding supports the study of Feldman and Rosental (2002), who ascertained that both males and female adolescents are more likely to have a discussion on sexual matters with their mothers than with their fathers. Although female adolescents said that they have more regular conversations about sexual matters with their mothers than their male counterparts.

♂IRT: 8-9 (Home oriented)

P: For the first time in my life, I got the information from my mother (R: from your mother), .Yes from my mother.

♂:427-428 (Home Oriented)

P: I took it ok because it was my mum, and she is telling me the right thing. But my friends know so much than I do

♀ 4RT: 379- 380 (Peer Oriented)

P: My mother did, she told me that I should not have any sex now. She told me at age 10, but the discussion was between me, my mum and my dad.

Siblings: Siblings may serve as role models for each other, due to the family bond that exists between them. For instance, younger children often look up to the older sibling and tend to believe what they say and want to be like them. Findings show that some adolescents seek information from siblings rather than from parents. Perhaps, this prevalence may be due to parental attitude which may not be friendly or approachable. Respondent (10RT: 800) reveals that she feels comfortable receiving sexual information from her sister, because, she believes whatever her sister tells her. The respondent (8RT: 655-658) reported similar view, as he used to receive sexual information from his brother. Older siblings can be good role models as younger siblings look up to them and can learn from them.

♀ 10RT: 800 (Peer oriented)

P: I felt normal because I feel anything my sister tells me is right

♀ 8RT: 655-658 (Home oriented)

P: My family members I used to hear it from my brother,

He initiated it, and one thing led to another and we started talking about. And it was just me and my brother. But what he told me is what I already know. I didn't react because it is not a big deal.

♀ 10RT:833-834 (Home oriented)

P: I value my friends actually and value information from them but I have to find out from my sister actually if it is right.

Relatives: These are extended family members. Respondent (3RT:312-313) felt comfortable receiving information from relatives who are older. Such communication may depend on the type of relationship that exists between the adolescent and their relative. Comfort may be because certain relatives are respected and act as role models.

♀ 3RT: 312-313 (Home oriented)

P: Yes ma, my aunty, I feel it is okay for her to talk to me about it because she is older than me.

School: Aside from family, school is another organization that has a great influence on a child, because children spend a large percentage of their time in school, learning from teachers and their environment. Also, school is where a child gets to interact and mix with other children from different backgrounds and different family structures. Adolescents in school learn from different people; they learn from teachers, friends, peers, seniors. Similarly, the influence of a teacher over a child cannot be overemphasized as they are often seen as a moral authority, especially in the African context. Interestingly, parents believed that school should be a place where children are taught everything, especially things they shy away from such as matters of sexual and reproductive health. Data revealed that adolescents recognized school to be a place where they can acquire knowledge, including fact on sexual matters and this in turn influences their readiness to learn and be informed. Respondent (2RT:275-277), affirms that school had been a helpful source of information on sexual matters this respondent relied on his teacher for information (datum 2RT: 261). Respondent

(6RT:487-488) also acknowledged that school teachers and seniors in school were a source of information. One respondent (10RT:821-823) however, stated that it would be nice to invite other older impartial people from outside to talk to them about sexual matters. Familiarity with their teachers can make personal discussion difficult and an outsider may also have a different approach. Above all, the school has been identified as a key, responsible stakeholder in matters regarding sexual health. Abiodun and Olu Abiodun, (2016) also found that school is the main source of information for adolescents.

♀ 6RT:487-488 (Home oriented)

P: from school, our teachers and our seniors, in school it is in the morning, every Thursday morning in groups, and we can ask questions sometimes because we are just girls.

♂2RT:275-277 (Peer oriented)

P: The school has been so helpful in giving out such information, on Thursdays we do the curriculum activities in the school and they tell us more about it. In school, they give us information about sex and how to prevent it. The principal told us and our biology teacher.

♂7RT:530-531(Home oriented)

P: Not in this school. My former school in Lagos, it was the only place we had such talk, it was taught by our principal he and his wife.

♀ 10RT:821-823(Peer oriented)

P: Maybe they should make a special day like that for.... Like, now how we used to do it in school... like every Thursday, on female assembly we talk about it, I feel it would actually be nice for them to call older people from other places to come and tell us about stuffs (information) like that.

♂2RT: 261(Peer oriented)

P: rely on my teacher for information

Medium: This has to do with the style or the method through which adolescents receive information on sexual matters. There are various ways through which

information is being passed to adolescents. However, from the interviews, it was identified that adolescents received information regarding sexual matters in various ways, such as group discussion, drama presentation, comics, ‘one on one’ discussion. Findings from the participants (IRT: 68-69; 3RT:316-317) showed that adolescents preferred a ‘face to face’ method, because of confidentiality. However, in their previous sexual education, the discussion had been in a group or general class. Thus, the channel through which information is being passed on to young people determines their level of acceptance. In contrast one participant (5RT: 438-439) stated that he would prefer sexual information by a group discussion. On the other hand, another female respondent (9RT:754-755) preferred a face to face discussion. She would prefer to have a group discussion with male students of the same age. Participants 10RT:814-815 and IRT:71-72 said that they received lectures both in mixed and sometimes separate gender groups, depending on the type of lecture.

♂IRT:68-69(Home oriented)

P: It was a group.. ermm.. all the school, the whole school was called together and we were given the lecture in the hall

♂IRT:71-72 (Home oriented)

P: yes, we had a general one and later on we had a special one, where the boys were kept in another place, where the girls were kept in a separate class and we were lectured.

♂IRT: 79 (Home oriented)

P: Yes, I think it should be more secluded... private. (R: okay)

♀ 3RT:316-317(Home oriented)

P: I feel it is good, but it should be one on one, because the way we are being taught is general

♂5RT: 438-439 (Home oriented)

P: People are different in the ways they like to get their information, but me I prefer it to be in a group,

♂7RT: 597-598 (Home oriented)

P: Sit them down one on one. If you talk to them in a group, they may not listen and will be shy and will not open up.

♀9RT:754-755 (Home oriented)

P: It better face to face, because of confidentiality.... (R: with male or female?)...I actually feel free with males more, and I prefer it with my age mates

♀10RT:814-815 (Peer oriented)

P: She was just like we should take care of our bodies, like that in a mixed class, but sometimes we have gender assembly, where we talk about things like that.

4.6.3. Pressure factors influencing sexual decisions: These are forces that either act for or against one's wishes. In this study, pressure factors are those forces that act as a driving or propelling force for adolescents to engage in sexual activities, some of these are friends, peers and older friends of both genders as well as the changing basis of an existing platonic relationship

Changing the basis of pre-existing platonic relationship: Findings revealed certain pressures from an adolescent former friend, where a change had occurred in the platonic relationship. This pressure may come from both males and females. Participant (7RT:635-637) revealed that a guy will likely yield to pressure from a girl, because of the fear of losing her to another person. The study of Ankomah et al., (2011) confirms that some adolescents believe there could be no love without sex, and the fear of losing a boy- or girlfriend acted as a strong pull factor to yield to pressure. In the same vein, a male participant (IRT: 175-178) revealed that pressure to engage in sexual activities came from a former friend. This suggests that pressure to engage in sexual activities may come from different sources. Furthermore, Datum IRT: 246-248 shows that the pressure to engage in sexual activities from trusted platonic friends may result in lack of trust and disappointment in such a platonic relationship.

♂IRT: 175-178 (Home oriented)

P: Have never done that, but it happens to me, someone has pressured me once before. A former friend of mine has told me to do something like that before, but that didn't

happen. When he told me about such a thing, I tried to explain to him because we are Christians and so I tried to use his own bible to explain to him.

♂IRT:246-248 (Home oriented)

P: Yes, I have, pressure from my former friend like I said earlier, it makes me feel bad because before he was showing interest in having the same point of view as mine, so I thought we shared the same view.

♂7RT:635-637 (Home oriented)

P: Number one, if the guy likes to a girl he will want to do it. Because the girls want to do it, so in order not to make her leave him or break up with him or go and meet another guy, he will want to please the girlfriend and by pleasing her, it means they will do.

Peer pressure: This is the type of pressure that comes from peers or an individual who has a direct influence on a person. Changing attitudes, values and behaviour to conform with those who exert influence is part of adolescent experience. Peer pressure is usually very difficult to deal with, particularly when it comes to sexual matters. Many adolescents choose to have sexual relationships because their friends think sex is alright. For some, they feel pressured by the person they are dating either male or female. Unfortunately, some give in to the pressure and have sex rather than construct a reason for abstaining. Also, some adolescents get caught up in romantic feelings and believe having sex is the best way they can prove love to their partner or friend (American Sexual Health Association, 2017). Evidence from this study revealed that peer pressure can come from both genders. Pressure can come in different forms for example physical harassment or being called subtle names (Ankomah et al., 2011).

Same-Sex Pressure: This type of peer pressure occurs among peers of the same gender and happens often amongst adolescents. This is may be because, during this period adolescents want to feel a service of belonging among peers, and inevitably they will become pressurized into what they do not wish to do. Participant (2RT:295-296), revealed that he was being pressured by a friend of the same sex, who he knows does not do such things. Also respondents (2RT:295-296; 8RT:686) said that

adolescents find it easier to shun pressure from the same sex; however, the case might be different with the opposite sex.

♂2RT:295-296 (Peer oriented)

P: Yes, by my friends, I tell them to shut up. I feel embarrassed when pressurized. When they told me about sex. I said what is wrong with this boy because he doesn't do such things.

♂8RT:686 (Home oriented)

P: Yes, it was one of my friends, I just said thank you.

Opposite Sex pressure: This is the type of peer pressure that comes from the opposite sex. Female adolescents in this study experienced pressure from male adolescents. Adolescents become attracted to the opposite sex and have a desire to want to explore and experiment. However, datum 9RT:774-775 revealed that adolescents were able to escape the pressure by using a defensive skill. Unfortunately, not all female adolescents have been taught how to overcome extreme pressure from the opposite sex.

♀9RT:772 (Home oriented)

P: Yes, a male friend

Similarly, the participant further reported that the pressure from her male friend was frustrating.

♀9RT:774-775(Home oriented)

P: that day, I was kind of frustrated, I hit him in his private parts, very hard and he just had to leave me alone. I felt the pressure was annoying,

In contrast, this male participant claimed to have experienced pressure from the opposite sex about two times. The participants further revealed that pressure from the opposite sex may be due to a romantic relationship that exists between them.

♂7RT: 628-630 (Home oriented)

P: Maybe once or twice, but it is not really pressure like that. Although there are some girls in my school that really want to do the stuff with some guys, maybe because, both of them are dating and stuff like that.

In the same vein, this participant affirms that many of her male friends encourage her to have sex.

♀4RT:408-409 (Peer Oriented)

P: My friend a male, I think it is not right. Majority of my friends encourage me to have sex,

Pressure from Older friends: Pressure to engage in sexual activity comes from older friends. Older friends are expected to be role models; however, data from this study has shown otherwise, as some of them may negatively influence younger adolescents. Respondent (7RT:550-553) stated that he keeps older friends because he believes they are experienced, despite the fact that he knows that they are not ‘good examples’. He feels one need to be smart in order to learn from them. Respondent (2RT:272-273) confirms this as he stated that his older male friends are such a bad influence as they want him to have sex. Older friends may think the young are more gullible and they can be easily persuaded. Paradoxically, these older friends may not themselves have engaged in such acts before, but want to vicariously experiment. Thus, adolescents should be encouraged to report any form of pressure they are experiencing to trusted adults.

♂7RT:550-553 (Home oriented)

P:Mostly male friends, I don't really keep female friends, older, at times I have older friends, because those ones are experienced. Most of the time these ones they are bad guys, its not as if they are bad like that because they will say it in a way that looks bad, but if you are smart enough you will understand what they are saying.

♂2RT:272-273 (Peer Oriented)

P:But the ones that disturb me are male and are older and they want me to have sex. They are giving me bad information which is not accurate and not good information.

4.6.4. Fear agents: These include sources of fear influencing adolescents' sexual decisions. This comes from family, society and previous experiences as well as from the media. Being afraid may prevent adolescents from engaging in sexual behaviours. This section below discusses in details how fear influences adolescent sexual behaviour.

Fear deriving from the information given by Parents/Teachers: Many African parents, especially in Nigeria, prefer to instil fear into their children against certain sexual activities rather than giving them accurate and correct information (Iliyasu et al., 2012). Iliyasu et al., (2012) further highlighted that parents believe that telling children the correct information may make them want to explore or engage in sexual activities. Most parents and adults then shy away from their responsibility of informing or educating young people on sexual matters. Respondent (2RT:264-266) affirmed that his parent told him to stay away from sex and be careful, without giving good reasons why he should abstain. Thus, there may be a tendency for some adolescents to have sex when they have the opportunity because reasons for abstinence are inadequate. Respondent (6RT: 481-482), stated that her mother told her if she has sex with a boy, she will get pregnant. If she were to have sex and not to get pregnant, that might render her mother as untruthful. There is a need for parents to be accurate and detailed when providing sex education. Ajidahun, (2013) reported that some parents are in the habit of telling their children tales instead of genuine information just to satisfy their search for answers to their questions. For example, a mother may tell her daughter that good girls do not get pregnant; only the bad girls do (and they are also the ones that stay out late and hang around with boys). If subsequently, the good girl became pregnant after her first sexual relationship, she may be left in confusion.

♂2RT:264-266 (Peer oriented)

P: They told us to stay away from sex, the information is very good. I had a one on one discussion with my dad and he said I should be careful with what I am doing and I should stay away from sex that it is not yet time. My friends do not really know about it.

♀6RT: 481-482(Home oriented)

P: She used to tell me that when a boy has sex with a girl she will be pregnant; she told me when I was 9 or 10 years old.

Misconceptions: These arise from inaccurate information that adolescents are given by parents or adults who fear telling them the truth. Ajidahun, (2013) claims that several parents are of the opinion that exposing a young girl or boy to sexual matters may possibly be dangerous. By telling a young person about sexual relationships could result in pregnancy as he or she may want to experiment. For instance, in datum IRT: 11-14, the young man was told that going near his siblings may results in a pregnancy. This form of communication is relatively common among many African parents. They prefer to impart information on sexual matters to their children in unclear vague terms, as noted by Ajidahun, (2013) this author asserted that parents are in the habit of telling their children tales rather than educating them with factual answers to their questions. Participant 5RT:424 illustrate a similar situation as he was told that talking to a member of the opposite sex may result in pregnancy. This is obviously not true. This information if believed might have made the adolescent isolate himself from girls in school and in the community. These misconceptions confuse young people, and thus a need for detailed and accurate information arises. Ankomah, et al., (2011) found in their study that adolescents delayed sexual decisions because they believed that could early sex for boys will cause the penis to get stuck inside the vagina. Some male participants believe that failure to have sex early would result in pimples, becoming fat and even infertile in the future, or could even lead to death. Some female adolescents believed that remaining a virgin until marriage would only make penetration during sexual intercourse more difficult. A female participant (2RT:292-294), thought that having sex before marriage may lead to miscarriage and infertility because of the many abortions. In summary, adolescents either postpone sexual activities or engage in early intimacy. It is evident that parents hold diverse views regarding the issue of sexuality and on how to educate their children (Ajidahun, 2013).

♂IRT: 11-14(Home oriented)

P: I was about 7years old then. When I was.... Erm. When I had a sibling living with us then, so was a girl (R: okay), but by then we were not that rich, so we share an

apartment. So my mummy told me about the dangers of me going near my siblings. That was the first time of me hearing such a thing. (R: okay).

♂5RT:424 (Home oriented)

P: She said I am not a kid anymore, that if I talk to a girl she might get pregnant,

♂2RT:292-294 (Peer oriented)

P: Ermm when a girl enters marriage and having a miscarriage, cannot bear any children, because she has had abortions many times, having so many sexual partners.

Outcome if involved: The findings revealed that adolescents were aware and afraid of the possible outcomes of engaging in unprotected sex such as STIs, HIV/AIDS and unwanted pregnancy. This fear of possible outcomes might come from the examples they see around them or from what people say. The prevailing HIV/AIDS discourse has been frightening leading to many young people abstaining from sexual intercourse or using contraception if they do become intimate. A female respondent (3RT:349) said she was afraid of contracting STIs including HIV as well as getting pregnant. A male participant (7RT: 618-621) claims to be afraid of contracting HIV which he believes does not show on the face of the victim. Another male respondent (8RT: 678) also reveals that he is afraid of getting a girl pregnant and contracting STIs and HIV. This fear may disappear if, or when, they are given detailed information on contraception. Abiodun and Olu Abiodun, (2016) support this finding and suggest that the main reasons why female adolescents abstain from sexual activities are due to the fear of pregnancy and STIs. Unequal gender norms which label young girls who are sexually active as being promiscuous can also inhibit intimacy.

♀3RT:349 (Home oriented)

P: Because, I am afraid of HIV, STIs, and pregnancy.

♂7RT: 618-621 (Home oriented)

HIV is the koko, [meaning HIV is the real thing] because, all these girls that looks very fine, you will not know that they have something in their body. Because they are fine they have everything, your mind will not suspect and when you have sex with

them. They will not tell you, they will just carry their bag and go home. Then maybe after falling sick when you try to go to the hospital, the doctor will now detect it.

♂8RT: 678(Home oriented)

P: YES, I am afraid of getting anyone pregnant, contacting STIs and HIV

Fear of parents: Fear has been impressed into some adolescents so that, if they want to have sex, the first thing they will consider is what their mother or father would say. The reverence that adolescents have for their parents often makes them stay away from sexual activities. For instance, some may say my mother will kill me if I become involved in sexual activities, or my parents will disown me if I get pregnant outside of wedlock. Sychareum (2006) also stated that adolescents who feel highly protected by their mother were less likely to be sexually preoccupied. They are more likely to confide in their mothers. On the contrary, the study of Idoko et al., (2015) hypothesized that parental strictness significantly increases adolescence odds of engaging in premarital sex. A female interviewee (9RT: 709-710), reports such protective parenting. The respect, she has for her mother may make her heed her instructions. Thus, adolescents reverence for parents may delay initiating sexual activities

♀4RT:395(Peer oriented)

P: No, (why) nothing, because I was afraid to tell my father

♀9RT: 709-710(Home oriented)

P: I think she told me that I am a growing lady. I have to be very careful, watch myself, and watch the way I hang out with boys.

Media: Visual media serves as many channels through which an adolescent can learn practically and be informed positively. Conversely, such media may exert a negative influence. Those that inform adolescents positively often rely upon some sort of moral lesson. Evidence from a female participant (9RT: 720-722) reveals that parents used movies to correct and inform her on sexual matters. Significantly they watch the films together. When parents spend time with their children, conversations about sexual matters may arise, especially when watching a movie or TV together.

♀9RT: 720-722(Home oriented)

She can just start like..... Maybe we are watching a movie she can just be like all of a sudden she will say... (In Yoruba language) ori bi oseese ... meaning see the way she is behaving in the movie, you better learn from it ... everything like that.

4.6.5. Factors influencing adolescent sexual decision-making: There are various factors influencing adolescents' sexual decision making. From the data, these have been categorized into two main factors: Risk factors and the protective factors. The risk factors are those that influence adolescents to engage in unsafe premarital sexual activities. While the protective factors are factors influencing adolescents to abstain from premarital sexual activities or promote the use of contraception.

Risk factors: data from the interviews showed that friends, media, religion, cultural/societal norms, parental attitudes and pressure can influence adolescent sexual decision negatively. These factors tend to influence adolescents to engage in sexual risk-taking behaviour.

Friends: Friends were often identified as a source of negative influence on adolescents, encouraging them to engage in unsafe sexual activities. During adolescence young people tend to imitate or want to be like their friends or peer. Respondent 2RT:269-271 revealed that older friends who are supposed to be a moral check or role model for the younger ones have turned out to be a negative influence. Perhaps older teenagers think the younger ones look up to them and they can be easily enticed to do what they are told. A female participant (3RT:329-331) asserted that peers have been a source of negative influence on her to engage in risky sexual activities. She stated that her friends have multiple sexual partners. This girl goes on to say there are rituals in her culture that can only be successfully followed if carried through a virgin. Similarly, a male participant (IRT: 137-139) also claimed that some of his friends have a negative effect on him and he tries to avoid them. Ankomah et al., (2011) accord with this finding stating that friends are the key motivation for a male adolescent to engage in first sex. From data observation, male adolescents are more likely to be influenced by their peers to engage in early sex more than their female counterparts. The pressure could range from the subtle name-calling to physical harassment.

♂2RT:269-271 (Peer oriented)

(Older friends, peers)

P: my friends encourage me to perform the sexual activities... to engage in sex. My friends told me about sex. They discuss it seriously and I always stay away from them when they are talking about sex. Some of my friends are older, some are the same age friends.

♀3RT:329-331(Home oriented)

(Peers)

P: The only one I asked, about such information, is the only one that I know. She is not a good friend. She likes sex even. She cant sit without holding a pillow,... she is somebody like that. I don't ask her any information, because I don't want her to give me bad information.

♀3RT:343-348 (Home oriented)

(Peers)

P: Yes she is my classmate, although she is still my friend..... she has plenty boyfriends, haa, she has, she is even happy to say it. So one day she told me that, she is not a virgin, because one girl asked her, if she can do something for her[carry a ritual for her], but only those that are virgins can do it, she said she can't do it because she is not a virgin, for the thing [ritual] not to implicate the person she wants to help.

♂IRT: 137-139 (Peer oriented)

P: There are some people I won't like to go to. Even in school there are some friends, who initiate bad thinking in someone so I won't like to go to such ones. But, I won't like to go to people, some social media who advertise this pornography, pornography websites.

Media: The main significance of media is to pass across messages and or inform people, which can in turn influence positively or negatively. Findings in this study show that media was largely reported as being a negative influence on adolescent sexual activities. This may be due to the sexual images, portrayals in movies,

television and internet, which sometimes entice young people to explore sexual matters. Many adverts on Television integrate some form of sexual imagery. For example, one would wonder what link exists between a juice advert and sex. Pornographic pictures and videos are readily available on the internet. Many young people spent hours on their own watching television and or viewing the Internet with little or no parental guidance. Respondent (3RT:333-335) claims that the media gives her bad information and has a polluting effect through video/pornography; although she acknowledges media can still give good information. Ankomah et al., (2011) state that media, (television, in particular), can educate young people about the need to abstain or delay sex. In the same vein, Ajidahun, (2013) highlighted that magazines, television and movies; expose young people to sexual stimuli to a greater extent than ever before. In Nigeria there seems to be no readily available empirical data regarding Internet pornography and its impact on the life of young people.

Furthermore, Arulogun et al., (2016) in their study found that female adolescents compared to males were more likely to react negatively to pornography exposure. This finding corroborates with the views of a female participant (3RT:333-335). However, when compared to the West, pornography appears to be of a lesser magnitude in Nigeria (Holloway et al., 2013). A male interviewee (5RT:446) further claims that the media has also influenced him ‘negatively’, although parental monitoring prevents him from watching anything ‘above his age’. Media remains a key influence on early adolescent sexual initiation (Ankomah et al., 2011).

♀3RT:333-335(Home oriented)

Video/pornography

P: The media is even giving bad information, though media is giving good information, sigh... media is giving bad information because of the pornography. They are really polluting. But I will still prefer media if they can provide the right information.

♂5RT:446 (Home oriented)

Television

P: It has influenced me negatively. Anything above my age my parents don't allow me to watch it.

♂7RT:565-571(Home oriented)

Internet, TV

P: Most girls have this thing in them, like it is their nature it is what they do[watch pornography], and at times you can see another person that will not do[will not watch pornography], like in my former school there is a girl that likes watching porn movies and stuff like that. She also has her group of friends, I don't know what they do with it oo, but they usually watch it. It is not as if they download it, but on you-tube and stuff like that they watch.

Religion: Past evidence, has shown religion to be a protective factor against unsafe sexual practices (Odimegwu, 2005). However, religion may also endorse sexual debut among adolescents. Cultural beliefs prevail amongst some Muslim predominant communities that girls are ripe for marriage after menarche and pregnancy outside wedlock may not be seen as remarkable (Odimegwu, 2005). Some of the claims reported in the quotes below, may of course be the product of ill-informed essentialist thinking.

♂7RT:578-579(Home oriented)

P:but all this ermmm..., Muslims, they can like, at times, marry at a young age and they marry plenty wives, it encourages that too.

Cultural/ Societal norms: Children are made aware that engaging in sex once can result in pregnancy. However, when young people have sex for the first time and do not to get pregnant, there is a tendency for them to dis-believe both the information and the source. Thus, the cultural practice of not providing children with comprehensive information on sexual matters may put such children at risk. These cultural practices hinder accurate and correct knowledge of sexual and reproductive health among young people. A male participant (5RT:425) was told that talking to a girl might get her pregnant. Another respondent (3RT: 339- 341) said that they are being given confusing or incomplete information about the outcome of sexual intercourse. Olusanya, et al., (2013), highlighted that in many African homes, the culture of silence regarding sexually matters with adolescents can result in fables

being told as parents perceive that open discussion, is equivalent to promoting sexual intercourse.

♀3RT: 339- 341(Home Oriented)

P: Some did not know. They should teach us that if you have sex once someone can become pregnant. Some know, but for those that do not know I want them to improve the information, improve more and put more effort into the communication.

♂5RT:425(Home oriented)

P: She said I am not a kid anymore, that if I talk to a girl she might get pregnant.

Parental attitudes: Some parents, while trying to be protective of their child, may shout when correcting or even when passing across sensitive information. Frightened children will shy away from telling parents their problems or even asking questions. For instance, when a child wants some information about sexual and reproductive health and he/she decides to ask the parents, the first thing that comes to the mind of some parents, is whether such child is already involved in sexual activities or planning to do so. Thus, such a child may not get the required but receive reprimand information. This type of response prevents effective parent to child communication. Adolescents may then confide in other people such as friends, who may inform them negatively, as they have less knowledge. A female respondent (10RT: 856-856) states, that she will not want to ask her parent questions or talk with them regarding sexual matters, because of the possible response she might get. Turnbull, (2012), hypothesized that parents who are perceived to be controlling and authoritative towards their children, inhibit open discussion matters with them.

♀10RT: 856-856 (Peer oriented)

P: It can be from anybody that thinks... the person is really good, like my teacher, I can learn from my mum as well, but I am not really free with my mum but haa... my dad... I can ask daddy. My mummy will just be shouting.

Pressure: This comes from different sources and can influence adolescent sexual decision making. As previously noted, this comes from the same or opposite sex. A male voices (2RT: 269- 271) how pressure from his friends is one of the key ‘risk’

factors that influences unsafe adolescent sexual activity. Thus, a need exists to inform adolescents on skills that can be used to overcome pressure from different sources. Ankomah et., (2011) identified that adolescents' perceptions of whether their friends have had their first sexual intercourse, and their peers' attitudes toward sex activities together with being aware of a friend who has had sex, or friends who are fully involved in sexual activities were strong determinants of adolescent sexual activity.

♂2RT: 269- 271(Peer oriented)

P: my friends encourage me to perform the sexual activities... to engage in sex. My friends told me about sex. They discuss it seriously and I always stay away from them when they are talking about sex. Some of my friends are older, some are the same age friends.

Protective factors: In this study, several factors were found to positively protect adolescents against risk-taking sexual activities and inform their decision making.

Parent to child communication: This denotes the kind relationship that exists between a child and the parent. Postive parent-child communication is when a parent can freely and supportively discuss with their child (ren) without being judgemental or overly harsh. A child can open up to his/her parent or discuss matters of importance, building trust and a bond during positive encounters. Openness is lacking in families in Nigeria, as many parents find it difficult to build a relationship that enhances empathy and understanding with their children. Building close-relationships through communication will make children disrespect parent and not fear them remains a persisant cultural belief. In various cultures in Nigeria, especially the Yoruba culture, children are expected to respect parents and refrain from sitting where adults or parents are except when invited. Parent-child communication encourages intimacy provides the opportunity to disclose confidential issues. A male respondent IRT: 25-28 reveals that despite that fact that some parents shy away from discussing sexual matter, his mother started this discussion with him in his early adolescence and she took time to explain things. Similarly, Another young male 2RT:264-266 had a private discussion with his father. Turnbull, (2012), found that children will likely talk to their parents about sexual matters and personal experiences if they trust them. Adolescents who regarded their parents as role models were likely to imitate their parents'

behaviour by reciprocating within the family their parent's sincerity in discussing sexual matters.

A young female (9RT:718-722), affirms that her mother tried to inform her on sexual matters indirectly, by telling her that she is growing up. From the adolescent reports she is identified as Yoruba. Olusanya, et al., (2013) observed that whether or not adolescents are sexually active, adolescents rated the quality of parent-child communication as poor and insufficient among the Yoruba traditional society of Nigeria. A female participant (10RT:802-803) said that her mother talks to her on sexual matters but she does not give detailed formation. This may be because she is herself less informed. Turnbull, (2012) reported that parents may not give detailed information if they do not know about particular sexual issues. In the same vein, Shiferaw et al., (2014); Abiodun and Olu Abiodun, (2016) asserted that socio-cultural factors, such as the parent's level of education, knowledge, and cultural norms, play a key role in the prevention of parent-adolescent communication about SRH issues.

♂IRT: 25-28 (Home oriented)

Yes, she did discuss many topics on sexuality and puberty stage (R: Okay...). She warned me about going near girls, even when I started my secondary at the age of..... I think 10years old, my mom sat me down and talked me through for more than an hour, about dangers in going into contact with opposite sex.

♂2RT:264-266 (Peer oriented)

P: They told us to stay away from sex. The information is very good. I had a one on one discussion with my dad and he said I should be careful with what I am doing and I should stay away from sex. That it is not yet time. My friends do not really know about it.

♀9RT:718-722 (Home oriented)

P: my mum..... She can just go ahead... toibat (in yourba) o ma dagba sii lojojumo, meaning you are growing each day.

♀10RT:802-803 (Peer oriented)

P: No.... sometimes my mum talks about it actually, but not really, she doesn't really go deep into it.

Health workers: These include medical practitioners, school health nurses, who are professionals in their field and have the ability to give out accurate information on health matters. Health workers have been identified as a protective influence on adolescent sexual decision making. Since many parents are not willing to give out the correct information on sexuality matters, adolescents see health workers as people who can help them by providing the required and correct information. The friendliness and confidentiality adolescent receive from health workers can encourage them to visit more often. A young male (IRT: 196-199) said he enjoyed visiting a youth-friendly service, where he gained new knowledge and experience because health workers were friendly, helpful and take confidentiality into account. One female participant (10RT:896-872) said she visited doctors to confirm what she has heard or seen on the television on sexual matters. Clearly parents struggle to give their adolescent children accurate information. Bankole et al, (2007) stated that health professionals are one of the major sources of adolescent sexual health information in sub-Saharan Africa. Therefore, the attitudes of health workers appear to determine whether or not adolescents will seek their guidance.

♂IRT: 196-199 (Home oriented)

P: During my last visit to the place, it was so interesting, because the person who attended to me was different from the person who attended to me the first two times I went there. So I what I was taught again was different from what I have learnt the other time so I gain new knowledge and new experiences. They have been friendly, helpful and confidential.

♀10RT:896-872(Peer oriented)

P: Yes, I used to ask my doctor, I just asked them that..... because I watched a movie like that, a guy had sex with the girl for the first time and I was surprised that she didn't get pregnant. So I now asked the doctor, he said that it is possible, that he may not release sperm into her or may be low sperm or she was not ovulating.

Religious beliefs: This refers to matters of faith as well as the mythological, supernatural powers or spiritual aspects of a religion. Participants in this study are from a country where religious beliefs are very strong and, act as moral proscription. Religious belief has been identified sometimes to be a protective factor for adolescents against engaging in sexual activities. Religion can be a powerful influence and a moral

guide, especially for young people. This influence was identified among participants who belong to the Christian faith. One young male's (7RT:577-578) religious belief, made him patient. Similarly, another young man (IRT: 233-234) had not had sex because of his religious background and the advice he received from his church. Odimegwu, (2005) highlighted that adolescents who attend religious services regularly and who take religion seriously in their lives are more likely than others to develop sexual attitudes and behaviour that are in agreement with their religious doctrines. One male participant (IRT: 180) expressed how religion acted an influential factor against sexual pressure. According to Odimegwu, (2005) young people who are actively involved in religious activities would have more contact with religious adults who might be influential in guiding them to delay sexual activities. A male respondent's view (IRT: 166-169), illustrated a literal belief in moral proscription.

♂7RT:577-578 (Home oriented)

P: Hunnnnnnn..... yes..... Like now, Christians, we are always like trying to do like Jesus, like we should be patient and stuff like that.

♂IRT:233-234(Home oriented)

P: I think I haven't had sex before because of my religious background and also the advice I have been given.

♂IRT:166-169(Home oriented)

P: I abstain. I can not say it is because I am afraid, but it is also part of it, but the instructions have gained from my religious group has helped me a lot and from the Bible, because the bible condemns this. We are still young and I have the opinion that sexual intercourse shouldn't happen between a man or woman until they get married.

♂IRT: 180(Home oriented)

Religion is more influential on me. With the help of God, I was able to resist the pressure.

♂IRT: 236-237(Home oriented)

P: No, (R: why not?) ... because I know many instances based on this and also from what we have been through, from the view of God, we know having sex is for married couples alone.

Parental involvement/monitoring: This is essential for a child's moral development, giving a child a sense of belonging and serves as a source of encouragement to the child to make good decisions. Findings reveal that parental involvement has helped adolescents to continue making good choices, which will help promote sexual and reproductive health. However, not all parents get involved with the activities of their children. Encouraging more parents to get involved with their children's development will promote the likelihood of making healthy choices. A male participant (IRT: 212-214) said that parental involvement encouraged him to visit a youth-friendly service for sexual health information. Mercy and Agokei, (2014) ascertained that parental involvement with adolescent life is associated with lower levels of sexual experimentation. Another male (5RT:446) reported that parental monitoring prevents him from watching things on the media that are age inappropriate. Gruber and Grube (2000) pointed out that adolescents are exposed to several sexual images and messages on television that are more or less generally presented in a constructive light with little discussion of potential risks and unpleasant outcomes that might follow. Therefore, overall (from the reference cited and data analysed), it would appear that there is need for greater parental monitoring and involvement.

♂IRT: 212-214(Home oriented)

P: Actually for me, for my first time going youth-friendly service, I don't want to also but my parents keep helping. They keep strengthening me, so when I went there I was Ok. So I think young ones should be encouraged to do so, although the needs of both man and woman vary.

♂5RT:446(Home oriented)

P: (media)... It has influenced negatively, anything above my age my parents don't allow me to watch it.

Self-esteem/ Self-dignity: The common elements in these concepts are 'respect' and 'honour'. However, they are different. Self-dignity is the state of being worthy of honour or respect for others, while self-esteem, on the other hand, is respect for

oneself, or a favourable thought or perception of one's own self-worth, or abilities. Self-dignity helps to boost self-esteem. In this study, these elements have been identified as propelling forces that help to keep adolescents in check morally and help them make positive sexual decisions. Self-esteem and self-dignity apply to both male and female adolescents. A female adolescent (6RT:491-492) learnt self-respect which has helped her to “keep herself”. While a male adolescent (2RT:28) feels he has not engaged in sexual activities because he is not ready, which denotes self-respect. Mercy and Agokei (2014) asserted that self-esteem acted as a ‘*social vaccine*’ that helps to inoculate young people against vulnerability including social ills. There is therefore a need to promote adolescent self-esteem within sexual health education programmes.

♀6RT:491-492(Home oriented)

P: I learnt that someone should give one self-respect so that guys will not look down on you and to keep myself. I feel the information is adequate. I feel the class is good.

♂2RT:288(Peer oriented)

P: because I feel I am not ready.

Cultural beliefs: This is a belief originating from a way of life, a norm or myth in a particular society or among a group of people. Among the Yorubas, in Nigeria, there is a cultural belief that when you remain a virgin until your wedding night, a woman receives great respect from her husband and family. This tradition has been in existence over decades, but popular opinion seems to point to decline. In Yoruba land, virginity is known as ‘Ibale’ and it is a thing of pride to any Yoruba woman to keep herself ‘whole’ until her wedding night. Mothers were fond of asking their daughters about their virginity so as to prevent the shame and disgrace that comes from not being a virgin. This can make the wedding a stressful day for both the bride and her parents (Ajidahun, 2013; Idoko et al., 2015).

The traditional and virginity belief has many unintended advantages, in that, it is believed to prevent the rate of premarital sex among young people, and; more contentiously, motivates the married women to remain faithful to their husbands (Ajidahun, 2013; Idoko et al., 2015). A young female respondent (3RT:349-351) further affirmed that this belief is still in existence despite the trends reported above. This girl stated that she wants to remain a virgin before her wedding night; because

she believes it will earn her husband's respect. Although this seems to have many (unintended) advantages, from a public health perspective, it also reflects a sexual double standard, which has significant implications for adolescent sexual development and gender inequality (Kreager et al., 2016). Sexual health education requires the motivation of the health educators to develop a curriculum that stresses the gendered social construction of sexuality (Kreager et al., 2016).

♀3RT:349-351(Home oriented)

P:Me I even believe that for me to be a virgin till the day of my marriage, will give me more respect from my husband than for me not to be a virgin.

Future ambition/ educational achievement: Most adolescents aspire to achieve their potential. They imitate people who have succeeded and emulate ways that helped them achieve success. Having role models may serve as a driving force for adolescents encouraging them to remain focused and to complete their education before becoming involved in any sexual activity. Therefore, potentially the more aspiration an adolescent has about the future (academic ambition), the less time to focus on sexual activities. Data reveals that both male and female adolescents intend to wait for sex until after their wedding. A male participant (IRT: 241-243) specifically demonstrates his belief that sex comes after education and in marriage. This indicates that the respondent is academically ambitious and he intends to achieve his goals before marriage. In the same vein, another male (7RT: 639) reveals that he does not intend to have sex until he is married. This claim was not just limited to the male adolescents, as young female participants (10RT: 866 and 9RT:783) also wanted to wait until after their marriage before having sex.

♂IRT:241-243(Home oriented)

P: Well, when someone is ready to get married when he is through with his education and ready to settle. I do not have the plan of having sex before marriage, I am not under pressure, and it is a decision made.

♂7RT: 639(Home oriented)

P: When you are married, you can even do it on the wedding day, maybe after the.....

♂8RT: 697(Home oriented)

P: Nothing, I don't just want to. The right time is marriage.

♀9RT:783(Home oriented)

P: After marriage.

♀10RT: 866(Peer oriented)

P: When I get married to my husband. We can have it at any time

School (teachers): Secondary schools in Nigeria are intended to educate children in diverse areas: there are two parties involved- the students and their teachers (IOM and NRC, 2011; Abiodun and Olu Abiodun, 2016). Aside from family, the school is an institution where “morality” and “good values” are promoted to children (IOM and NRC, 2011). School in some instances can compensate for deficits in upbringing. In Nigeria, teachers are respected by students and their parents as well. Interestingly, some children even respect (or fear) their teachers more than their parents (Cherie, and Yemane, 2012; Abiodun and Olu Abiodun, 2016). For instance, when children misbehave at home their parents may tell them that they will be reported to their teacher in school. This threat is an effective because they know their teacher will not ‘spare the rod’ and they will be disciplined. Also, in some rural communities, teachers are seen as ‘small gods’ or some kind of ‘saviour’ and are very respected. Children may prefer to run errands for teachers rather than for their parents (Abiodun and Olu Abiodun, 2016). Findings from this study show that teachers to act as a moral authority that helps or encourages children to make positive decisions. A male respondent (2RT: 275-277), reported that his school had been helpful in giving out sexuality information, although the majority of those discussions were delivered during the science or biology class. A female participant (10RT:811-815) describes how along with SRH, adolescents were also how to care for their bodies. Sexuality information in school is being passed through different channels such as gender assembly (4RT: 385). A female respondent (9RT:737-744), reveals that she is being counselled by other teachers in school aside from their science or biology staff. Although, another female (4RT:385) claimed that she prefers a face to face encounter to receive information. Two males (7RT:533-536; 2RT:275-277) reported that sex education was also delivered by their school Principal. A collaborative effort is apparent from the teachers and the Principal to educate adolescents on sexual matters. Adolescents see school as where they can learn many things about sexual and

reproductive health education including puberty. Abiodun and Olu Abiodun, (2016) found out that schools were the main sources of information on SRH for the in-school adolescent in Nigeria.

♂2RT:275-277(Peer oriented)

P: The school has been so helpful in giving out such information. On Thursdays we do the curriculum activities in the school and they tell us more about it. In school, they give us information about sex and how to avoid it. The principal told us and our biology teacher.

♀3RT:323-325 (Home oriented)

P: Yes, even I always got there with my jotter and pen to jot. My overall impression of it is that they should... improve better. They should use drama to make the student realize that how they are doing it is not good.

♂5RT: 430-434 (Home oriented)

P: They did when we were in junior class, it was our science teacher. We were taught about the reproductive system of humans, but we couldn't ask questions, even to each other. People were not comfortable to ask question, but the information was appropriate. We were not really given adequate information, we were just given basics. It is necessary for teenagers, especially people that are going into puberty to hear about sex education early enough.

♂7RT:533-536 (Home oriented)

P: I was doing something important and they came and they said everybody should move to the hall. I was even thinking that was very urgent and that we should not have sex and stuff ... and in my mind, I was like, do you think I have intentions of doing something like that, although some boys liked it.

♀9RT:737-744 (Home oriented)

P: They have counselled us. The home economics teacher taught us. We have been talked to. They can just start, the female staff, (in Yoruba) eyin obirin eso ra fun okurin (interpreted as)..... You ladies be careful of boys... and other programmes they have done for girls only

It was taught a few times sha, I feel it was the right time for me and others.

They taught us through videos and like a seminar. I feel the information was okay. But they are kind of taking things too far on the matter.

For me I learn new things, but I don't know about others. I learn different things depending on the talk.

♀10RT:811-815 (Peer oriented)

P: Yes, biology... all those reproductions, by my biology teacher. It was taught in a general class. It was okay.

I felt normal because I have heard about it before. It didn't sound strange or weird at all.

She was just like we should take care of our body, like that in a mixed class, but sometimes we have gender assembly, where we talk about stuff like that.

♀4RT: 385(Peer oriented)

P: From school in SS1 by our biology teacher, from friends. But I prefer one on one.

Media: Important sources of information for the participants in the study included: newspapers, radio or television, internet and magazines, etc. Even though the media has most often been identified as a risk factor for adolescents regarding sexual activities, it has also been identified as a positive influence and a source of useful information on sexual and reproductive health. No doubt, so many adverts go on media on how to keep safe from STIs, HIV and how to avoid unwanted pregnancy. This has helped many adolescents to, at least, consider these matters. For example, in Nigeria due to the prevalence of HIV/AIDS in the country, the Ministry of Health came up with several adverts both on radio and television on how to prevent this disease, one of which is the ABC of prevention, which means Abstinence, Be faithful and Use condom. This advert has helped to inform lots of young people in the country. Also, the internet is another source of information that can inform young people, which is accessible. Many young people prefer to go on the internet to seek answers to their curiosity. Platforms such as Google and blogs seem to have almost all answers to questions sought, although not all information on the internet is 100% current or accurate and require to be filtered. Similarly, some young people prefer reading

magazines or comics where moral stories being told. One male adolescent (IRT:123-126) claimed enlightenment. Although, he also acknowledged a more negative influence. Another boy (7RT:561-564) watches and learns from programmes on Television which are anchored by health professionals, although this respondent claims to prefer the internet. He (7RT:601-605), thinks the internet can provide answers to all questions. He also expressed (7RT:514-515) a preference for magazines. Media can be a good source of information on SRH for adolescents only if they are educated on their uses and misuses (Asekun-Olarinmoye et al., 2014).

♂IRT: 123-126 (Home oriented)

Television

P: Media sources of information we can say they are in two ways, just like you have said, media give us information, enlightens us about this and many things that should be avoided but sometimes, some media show some information that is really bad and not beneficial. I won't say it is video, but, Television has been the most influential source of information because videos nowadays contain immorality and are bad.

♂7RT:561-564 (Home oriented)

Internet

P: I prefer the internet, like there was this programme I watched this year, I think around February, it was just this, they were saying it on the news. They were asking the person, who has studied the course before and he was just talking before he got to the major discussion. I fell asleep. That's why I prefer reading it.

♂7RT:601-605(Home oriented)

Internet

P: Normally, me I don't like going to health centres. If there is one people there won't be much good because they believe that, instead of going to health centres there are websites that have done so many things. Even for assignments and you don't have a textbook, the internet will provide material. So all those health centres..... sigh... it won't do. But it may do for all those adults, but for people like us it won't do oo. I won't even go.

♀10RT:836-840 (Peer oriented).

Internet

P: Yeah, sometimes I do read online, but sometimes they are not always right ... one of my friends told me that some people just post questions when they are not really sure. They can just for them to write personal questions.

Media can be trusted, but not really.

♀10RT:843-848 (Peer oriented).

Internet

Some movies are very very nasty and some are very educative. Some of the messages on media are relevant to me. Media information on sexual matters is sometimes okay and helping.

I go on media (internet) to get information because for now, my sister is not even around, because I used to rely on her most of time, but now I can use my brain. So I go on Google and search for things and I will be like ohhh.....

♂IRT:117-119 (Home oriented)

P: Well... through media sources I have heard some messages about sexuality and ernn.... Sexuality in secondary school and the messages given out are really helpful and have helped many people.

♂7RT:517-521(Home oriented)

Magazine

P: Mostly, it always is like a kinda story. Like the guy, likes the girl then at the end of the day they have sex, which resulted in pregnancy. Then after they have sex, the boy will tell the girl to have an abortion, because the girl did not want to tell her mum. She now aborts and it will lead to her death. From this I just used to learn that we should wait for the right time; when we are married.

♂7RT:581- 585(Home oriented)

Magazine (Comic)

P: The way I see it ooh, most of the time they do like in a movie, but it shouldn't be like a movie, but it can just publishing books or something but it should be in another dimension. Like most writers now, they used to write, Lots of prose but if they can take it in another direction, something like a comic, because if it is comic young people will want to buy it. Because me, I like comics.

This section has been able to explain with examples from qualitative data how situational or rational contexts, influence adolescent sexual decision making. These contexts should be put into consideration when developing sexual health intervention.

B. Identity Work/ Moral Accounting (reputation).

This section presents and discusses how identity work such as the moral factor influences adolescent sexual decision making or responses to sexual matters. These will be discussed under reactions; reasons for lack of parent-adolescent discussion on sexual matters; prima facie reasons account of current sexual identity.

Identity work refers to the personal qualities, beliefs, and expression that make up a person or group of people. These are time influenced by the environment a person lives, or socially interacts (Goffman, 1956). This process of identity work can either be creative or destructive. Moral accounting or reputation can be said to be a moral sense of what is wrong or right with the concern of being observed or watched by others (Goffman, 1956). It also entails how people tends to treat others present on the basis of the impression they give now about the past and the future; as impression is being treated as a source of information about unapparent facts (Goffman, 1956).

4.6.6. Reactions: These are the various reactions adolescents display when given SRH information either for the first or subsequent times. The type of reaction adolescents display has been identified to be associated with several factors. These include the context of the message, the moral authority involved and the associated emotional labour of dealing with information.

The context of the message: This includes the circumstances or situation surrounding the message. Context influences the type of reaction or response to such information and determines whether the information will be accepted or not.

Cultural/ societal norms: the context of the message most of the time is influenced by cultural or societal norms. Examples from the data below shows that parents will discuss sexual matters with their children when the situation “warrants it”. This is the norm in many African homes. Most often the message(s) are not passed directly. For example, two girls (10RT:803-805 and 9RT:720-724) said that their parents would rather use lessons from movies or movie scenes to inform them on sexual matters, rather than having a one-on-one discussion. Cultural/societal norms can make parents feel embarrassed when having a direct discussion of sexual matters with their children. However, Turnbull, (2012) pointed out that the lack of parents’ knowledge regarding sexual matters indirectly causes them embarrassment, which in a way makes their children embarrassed too. Therefore, parents need support to get updated on adolescent sexuality and also on positive communication styles.

♀10RT:803-805(Peer oriented)

P: It happens maybe when we’re just watching a movie and she just finds out something and she says... you see the way she is behaving. It is a general discussion.

♀9RT:720-724 (Home oriented)

P: (mum).She can just start like..... Maybe we are watching a movie she can just be like all of a sudden she will say... [in Yoruba] ori bi oseese... meaning see the way she is behaving from the movie, you better learn from it... everything like that.

She actually started doing this since when I was 11years. Then I was like..... mum kilode (in Yoruba) meaning mummy why?

Moral Authority: The reaction or response an adolescent shows to sexuality information is partially dependent on the moral authority of the person providing it. Participants in this study are from a society and culture where (by and large) great respect and cognisance are given to elders and those in positions of influence such as teachers. Others possessing moral authority are parents, religious groups, and medical practitioners. One boy (IRT: 131-135) states that elderly people from his religious society have been a source of advice to him as well as the medical practitioners. He is still receptive to hearing more information from them. This demonstrates the level of respect he has for these people and the information they provide. He further stated that in his religious congregation the members have also been a source of moral guidance.

Idoko et al, (2015) claimed that religion plays an important role in the life of individuals in any society. This emphasises the significance of religion in initiating the appropriate mentality and disposition towards sex. The role of religion as a “moral builder” has been variously recognized (Idoko et al., 2015). A good reason to work with religious leaders when planning SRH programmes.

♂IRT:131-135(Home oriented)

Religious group; medical practitioners

P: Yes, from our brothers, in the Christian congregation, I am a Jehovah's Witness so our brothers, in Christian congregation we call ourselves brothers and sisters, and our elders, the elderly ones, they have been very very helpful. I turn to elderly people most of the time for advice, but on this issue, I can say I have gone to see a medical practitioner twice, but still, I still long to do more.

♂IRT:61-62 (Home oriented)

Teachers

P: Different teachers talked about the topics, (R: like how many teachers?)..... about five of them have done that.

♂IRT:193-194(Home oriented)

Medical practitioners

P: They were friendly, a doctor attended to me. Have gained more knowledge on every visit, I can recommend it for my friend. As for me, I have known one doctor to whom I have been.

♂7RT:513(Home oriented)

Parent

P: Mostly, my mum

♂IRT: 8-9(Home oriented)

Parents

P: ...for the first time in my life, I got the information from my mother (R: from your mother), .Yes from my mother.

Associated emotional labour: Lazányi, (2011) defined emotional labour as the way of controlling overtly noticeable emotional displays, that is, those influenced by physiognomies and body language. However, for the purpose of this study, ‘emotional labour’ is conceptualised as the emotional responses adolescents show in response to sexual information, irrespective of the source. As discussed above this may have to do with the context of messages and the moral authority. Some of these emotional responses include being overly stressed, unconcerned, embarrassed, optimistic, uncomfortable, restricted and ‘guilty’. Turnbull (2012) pointed out that children may desist from discussing sensitive issues linked with sex to avoid being condemned or ridiculed by their parents for doing so. He further stated that adolescents are not given the information and knowledge that enables them to make responsible decisions and accountable choices regarding their sexual health and personal relationships.

Overly stressed

♀10RT:807(Peer oriented)

P: I was like watsup now... Is it up to that?

♂7RT:542 (Home oriented)

P: I have heard it too many times am tired.

Uncomfortable

♂8RT:660-661(Home oriented)

I don't want to hear it from my parent because it feels awkward, hearing from them, I feel somehow uncomfortable, because they may be thinking that I'm doing something...

Embarrassed

♂7RT:523 (Home oriented)

P: when I was 13, it was weird, because I never expected my mum to like.....

♂5RT:444 (Home oriented)

P: I don't really value such information, because some are somehow irritating.

Restricted

♂5RT:436 (Home oriented)

P: Hunnnnn... no, I think I know enough,

♀ 8RT:652 (Home oriented)

P: I didn't really see it as a big deal, I wasn't moved by it

Optimistic

♂1RT:17-19 (Home oriented)

P: Well... I felt it was for my good, but at the first, I felt, why this is very important? I thought I was still young and what could have possibly happened? But later I realized that it is very important.

♂ IRT: 21 (Home oriented)

P: Yes, it is a very good information and I am I will be happy to know more about it

♀ 3RT:310 (Home oriented)

P: I feel alright, even I didn't even feel any shy

♀ 3RT:316-317 (Home oriented)

P: I feel it is good, but it should be one on one because the way we are being taught is general

♀ 9RT:727-728 (Home oriented)

P: When she told me I felt like it was actually normal, but I felt like what is this woman saying. I think it actually was kind of good.

Thought of feeling guilty

♂8RT:660-661 (Home oriented)

P: I don't want to hear it from my parent because it feels awkward, hearing from them, I feel somehow uncomfortable and because they may be thinking I'm doing something

4.6.7. Reasons for lack of parent-adolescent discussion on sexual matters.

Data revealed several reasons why adolescents think parents are reluctant to discuss sexual matters with them.

Fear of adolescent getting involved in sexual activity: A male participant (1RT:36) thought his parents did not discuss information on SRH matters with him, because they are afraid he might become involved in sexual activities. The belief that the more he knows the more likely he will want to explore and practice sexual activities. Parents may neglect their parental responsibilities of informing their adolescent-child and defer this task to wider society or school, which may come rather too late. This position is a common parental belief in many Nigerian homes cuts across both rural and urban communities. Turnbull (2012) found that parents restricted communication regarding sexual matters with older adolescents because they felt the content was inappropriate in front of younger siblings.

♂1RT:36 (Home oriented)

P: I think they find it difficult because they don't want us to get involved,

Concerned about adolescent's response to such information: Adolescents think their parents do not discuss sexual and reproductive health matters with them because perhaps fear the response or reaction they will receive. Adolescents think their parents feel that child may be timid, withdrawn from people, and or socially isolate him or herself.

♂1RT:36-38(Home oriented)

P: I think they find it difficult because they don't want us to get involved. Some will say as soon as you tell them. They share it around. They will feel shy and they they will stay away from everyone and won't be friends of anyone.

Parent's past lifestyle: This appears to act as a constraint to information sharing. A young male (7RT:525-528) seems to confirm this sentiment. This may be due to

feeling of guilt from previous experience which makes them less confident. They may not see themselves as appropriate tutors. This is further complicated when the adolescent-child is aware of the lifestyle their parents have lived in the past. For instance, if a mother used to engage in prostitution so as to feed her family, or has had multiple sexual partners, there is a tangible fear that such child (ren) will follow a similar lifestyle. The mother may have a sense of guilt and she will most likely not be confident enough to correct such child (ren) or suggest abstinence.

♂7RT:525-528 (Home oriented)

P: Maybe, at times the parents who have done something like that [transactional sex] maybe when they were young. They won't have the courage to talk to the children because they have done something like that before. And they will not be able to tell them anything like a parent because their mind will be like... they will be guilty

The thought of being too young to be told: This is often influenced by a pervading societal norm which believes that a child should be kept in dark regarding sexual and reproductive health matters until near or early adulthood. Although, this norm may be gradually fading, as there are so many other sources of information a child or adolescent can seek. Some may attain harmful information which predisposes them to sexually risky behaviours. Adolescents frequently stated that parents do not discuss sexual matters with their children because they feel they are too young to be told and would not be able to process the information.

♀9RT:733(Home oriented)

P: May they feel that they are too young or something....

Feels it 'not right' to be told: Parents may also be inhibited from discussing sexual and reproductive matters with their children due to cultural taboos and beliefs. Some parents view discussions on sexual matters with adolescents as a means that could entice them to indulge in sexual intercourse whilst others just perceive adolescents as too young to discuss sexual matters and perhaps think they can always learn from their peers and media. Similarly, discussing sexual education with non-married adolescents is culturally unacceptable in most Muslim societies due to strong religious observance.

♀10RT:809(Peer oriented)

P: Because they feel it is not right,

Feeling that adolescents may ‘go wayward’, when told: Adolescents pointed out that parents do not discuss sexual matters with them because they see it as a medium for them to become ‘wayward’ or ‘promiscuous’. Many parents lack accurate information and (for some) the channel for passing across sexuality information may not be appropriate. This is often time influenced by cultural, societal norms and religious beliefs. Thus, cultural taboos, religious beliefs, feeling ashamed and parent’s lack of communication skill may all affect adolescent-parent communication on sexual matters.

♀6RT:485-486(Home oriented)

P: Parent doesn’t tell their children about it because they feel their children may be wayward. My mum initiated the discussion. We discussed boys and boyfriends.

4.6.8. ‘Face value’ reasons (current sexual identity): Face value reasons are reasons people give for their actions. According to Goffman (1956) ‘face value’ operates when an individual enters other people’s presence and they always look out to get morally credible information about themselves heard or accepted. Conversely, judgements are made about others in terms of his/her reliability, competence, attitudes, self and social economic status and so on. Goffman also assumed that many people in social interactions are engaged in practices to avoid being embarrassed or embarrassing others. In this study, face value reasons are the broad reasons given in relation to adolescent sexual decisions. These are the reasons for their sexual decisions, why they acted like they did or thought the way they did towards sexual matters. Influences included knowledge sources, fear, influence and pressure. All these factors combined together to determine adolescent sexual identity as has been elaborated in various sections above.

(a).Knowledge: this is the level of knowledge on sexual matters an adolescent has. This influences their sexual decision and sexual identity.

(b).Source: this is the source of knowledge from where sexual information comes and it determines the level of acceptability. Also, the age, maturity and moral authority of the source determines whether or not the information given will be accepted.

(c).**Fear**: this is an unpleasant emotion caused by threat or danger. There are various sources of fear, some of which were identified in this study and include self, family and society.

(d).**Influence**: these are the various influences (both positive and negative) on adolescents that influence their sexual decisions and determine their sexual identities.

(e).**Pressure**: Pressure factors, are those factors that act as persuasion or intimidation to make adolescents get involved in sexual activity or have a particular sexual identity.

4.7. REPEATED MEASURES ANALYSIS OF SURVEY (Longitudinal element of the research).

4.7.1. Wilcoxon signed test

The **Wilcoxon signed test** is a statistical comparison of two sets of dependent data from the same participants (Lund Research, 2013c). It is the nonparametric test correspondent to the paired t-test. Since the Wilcoxon signed-rank test does not assume normality in the data, it can be utilised when this assumption has been discarded and the use of the paired t-test is unsuitable. Also, it is used to examine any change in information or behaviour over a period of time, or when individuals are subjected to more than one condition (Lund Research, 2013c). Repeated measures were pre-set with level of significance of $P \leq 0.05$. That is, the cut off significance is 0.05. Therefore if the p-value is less than 0.05, we will conclude that a significant difference does exist. If the p-value is larger than 0.05, we cannot conclude that a significant difference exists. In other words, p-value below 0.05 is significant while p-value over 0.05, *not* significant.

From the longitudinal element of the research, the findings revealed that there were not many changes in attitude found during the intervening period. However, this may be due to short intervening period adopted in this study, a time period of six months. Furthermore, repetitive survey measurement that involves self-reporting can influence behaviour in several ways (Barber, et al., 2016). For example, repetitive survey questions may result in the adaptation of actual behaviour and or attitude due to familiarisation.

For the purpose of this thesis only the significant differences have been reported.

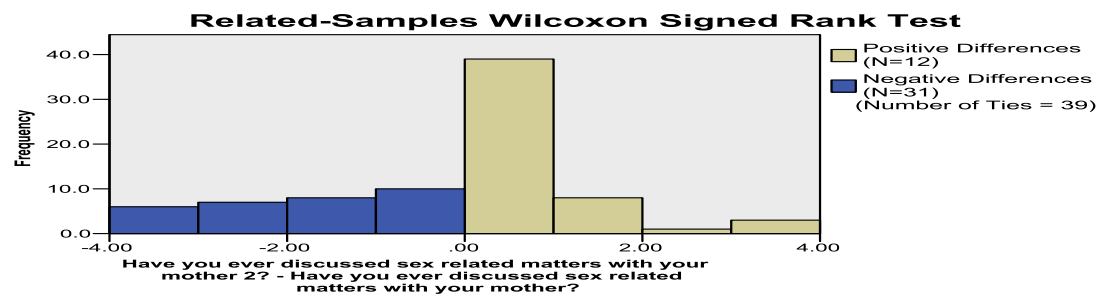
Table. 4.7. The summary of the repeated measures analysis of survey analysis: differences between groups using the Wilcoxon signed test.

Variable Attitude (One)	Variable Attitude Statement (two)	Test (Z)	Significance (P-value)
Have you ever discussed sex related matters with your mother	Have you ever discussed sex related matters with your mother	$z= 196.5$	$P\leq 0.001$
Most girls and boys who have sex before marriage regret it afterwards.	Most girls and boys who have sex before marriage regret it afterwards.	$z= 454.00$	$P\leq 0.017$
I believe girls and boys should remain virgin until they marry.	I believe girls and boys should remain virgin until they marry.	$z= 260.00$	$P\leq 0.004$
It is mainly the girl's responsibility to ensure, that contraception is used regularly	It is mainly the girl's responsibility to ensure, that contraception is used regularly.	$z= 406.00$	$P\leq 0.001$

Ever discussed sexual matters with mother (After a period of 6months).

There is a statistically negative significant difference on whether adolescents have ever discussed sexual matters with their mother when compared to the baseline survey, ($Z= 196.500$, $P\leq 0.001$). Thus, adolescents in the sample expressed the view that it was easier to talk to their mothers about sexual matters at the baseline +6months.

Figure 4.35. Wilcoxon signed rank test showing whether adolescents have ever discussed sexual matters with their mother.

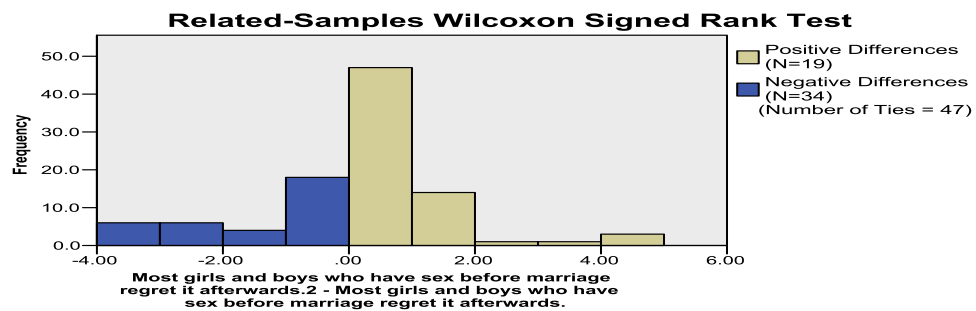


Total N	82
Test Statistic	196.500
Standard Error	81.837
Standardized Test Statistic	-3.379
Asymptotic Sig. (2-sided test)	.001

Change in attitudes and perceptions on sexual matters (After a period of 6month).

- a. There is a statistically significant negative difference between adolescent thoughts on most girls and boys who have sex before marriage and regret it afterwards. ($Z=454.000$, $P \leq 0.017$). Thus, adolescents were in agreement with the statement that most girls and boys who have sex before marriage regret it afterwards at baseline +6months.

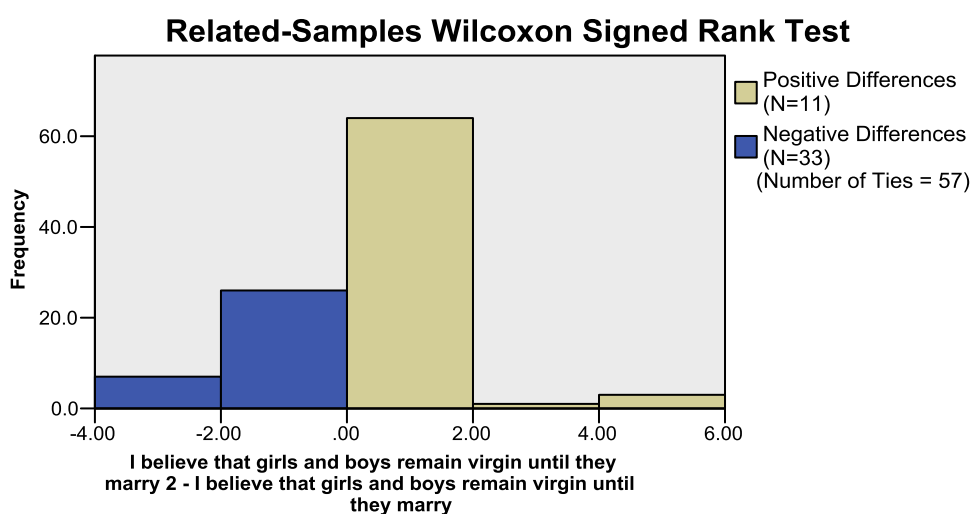
Figure 4.36. Wilcoxon signed rank test showing adolescent thoughts on most girls and boys who have sex before marriage.



Total N	100
Test Statistic	454.000
Standard Error	109.787
Standardized Test Statistic	-2.382
Asymptotic Sig. (2-sided test)	.017

- b. Adolescents in the sample were more likely to agree with the statement “I believe that boys and girls should remain a virgin until they get married at baseline +6months. (Z= 260.000, $P \leq 0.004$). This may indicate some kind of improved knowledge, increased awareness and/ or self-motivation at play.

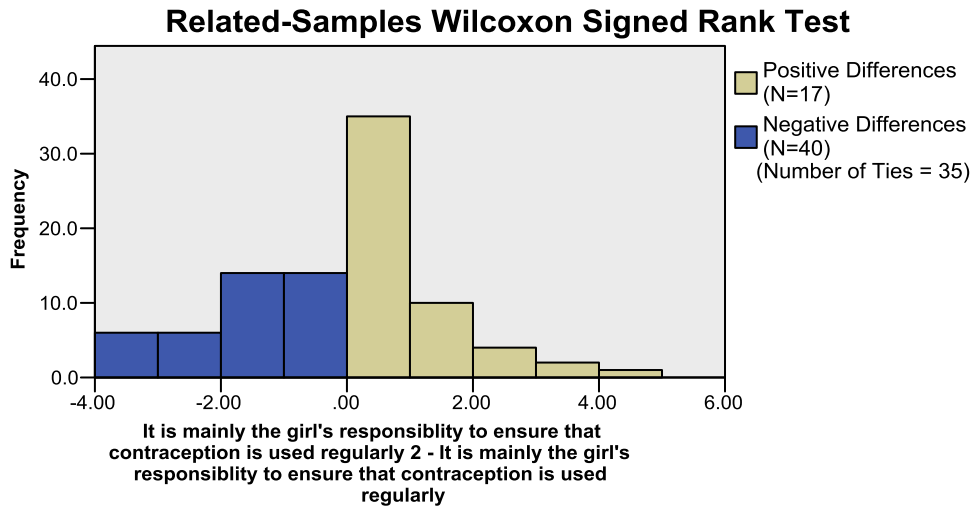
Figure 4.37. Wilcoxon signed rank test showing adolescent thought that girls and boys should remain virgin until they marry.



Total N	101
Test Statistic	260.000
Standard Error	82.614
Standardized Test Statistic	-2.845
Asymptotic Sig. (2-sided test)	.004

c. Adolescents in the sample were more likely to agree with the statement “It is the mainly the girls responsibility to ensure that contraception is used regularly at baseline +6months. (Z=406.000, $P \leq 0.001$). This may indicate a greater awareness of safer sex amongst girls in the sample.

Figure 4.38. Wilcoxon signed rank test showing adolescent thought that it is mainly the girl’s responsibility to ensure, that contraception is used regularly.



Total N	92
Test Statistic	406.000
Standard Error	124.158
Standardized Test Statistic	-3.387
Asymptotic Sig. (2-sided test)	.001

4.7.2. Significance test for association.

Repeated cross tabulations and Chi square tests (SIX month follow up)

Have you ever had a boy/girl friend?

There was a significant difference between the before and after on whether adolescent has ever had a boy/girlfriend. ($\chi^2 = 20.407$, with 2 *df*. $P \leq 0.000$). The adolescents in the sample were more likely to have more boy/girl friends over the intervening period of time.

Have you ever had sex before?

Correspondingly there was a significant difference between having had sex at baseline and baseline +6months. ($\chi^2 = 5.493$, with 1 *df*. $P \leq 0.019$). With more adolescents reporting that they had engaged in sexual activity. Combined, these two findings may reflect sexual maturation over the intervening 6 months, or simply more trust in the researcher on the part of respondents.

4.7.3. Logistic regression analysis

Logistic regression analysis is a statistical pathway used to predict the association between a binary variable or dichotomous outcome, (which is also known as dependent variable) based on a set of categorical and continuous explanatory variables (also known as independent variable) (Sperandei, 2014).

Whilst many bivariate associations were found – as reported above, in order to adjust for possible confounding effects, a multivariate binary logistic regression was developed using the binary outcome of ‘Home’ and ‘Peer Oriented’ group membership. An initial shortlist of variables was created theoretically by identifying those variables thought to have a possible determining effect on group membership. These variables were then used to build a multivariate logistic regression model. All shortlisted variables were entered into the model simultaneously.

A logistic regression analysis was conducted to predict the binary outcome ‘Home / Peer Oriented’ for 121 phase I respondents. The following variables were used as predictors: gender; Age; Occupational Class (of parents); Ease of discussing sexual matters with father; Ease of discussing sexual matters with mother; attendance at sex education classes at school; Attitudes towards sex before marriage.

A test of the full model against a constant only model was statistically significant, indicating that the predictors, taken as a set reliably distinguished between outcome of 'Home' and 'Peer Oriented' group (chi square = 17.753 , $p \leq 0.023$ with $df. = 8$).

Nagelkerke's R^2 of 74% promised a strong relationship between prediction and grouping. However, whilst prediction success overall was 82.6%, further inspection of the Wald criteria demonstrated that none of these predictor variables were of significance in determining 'group membership to either 'Peer Oriented' or 'Home Oriented' groups. Notably, the researcher did not re-interview during the second phase of the data collection, due to limited time and resources. This fact obviously ruled out longitudinal qualitative comparisons.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1. Chapter Overview.

This chapter presents the process of the interpretation of results, discusses the validity of data and results and limitations of the study. In addition, a critical discussion of the findings of this study is presented. Furthermore, this chapter examines whether the findings answer the research questions and achieve the aims of this research. Concerns are highlighted arising from the findings. The Social Ecological Model is discussed in relation to the study results. This chapter is organised under three major sections, which are:

- The Nigerian context (what is particularly Nigerian about this study's finding?);
- Explaining key findings; and,
- Theorising adolescent sexual development in the context of Nigeria.

5.2 THE NIGERIAN CONTEXT.

In Nigeria, adolescents form an important age cluster that consists of more than 20 percent of the total population (Cortez et al., 2015; National Population Commission [NPC] Nigeria and ICF International, 2014). Their health and state of well-being are vital to the country's future, this is not only in respect of economic development but as well as in the aspects of social development and the nation's stability. However, in the area of health, sexual and reproductive health their wellbeing is an essential aspect that determines future outcomes (Cortez et al., 2016). This concern has been reflected in the country's health policy e.g. see the Family Life Health Education (FLHE) programme for adolescents. Although the FLHE programme has not really taken its full course in all schools across the nation; it remains a promising programme (Cortez et al., 2016).

Previous evidence has affirmed that sexuality education can be used to tackle various types of risky sexual activities (such as early sexual activity and its consequences of unwanted pregnancy, induced abortion and pregnancy complications as well as STIs) that young people engage in across many developing countries like Nigeria (James, 2012). Sexuality education can influence behaviour positively. Aside from adolescent sexual risk behaviours, gender issues in sexual and reproductive health are a key aspect of public health in Nigeria. Young girls are more vulnerable than boys; because they are more predisposed to risky sexual encounters, e.g. sexual coercion,

rape and or any other form of sexual violence. Although, this was not reported among respondents in this study (James, 2012; Cortez et al., 2016). Young women may have multiple sexual partners, engage in transactional sex and experience future sexual dysfunction. Sexual and reproductive health education regarding gender issues is required because the incidence of gender-based violence associated with sex appears to be on the increase (Cortez et al., 2016).

Unfortunately, young people have insufficient or inaccurate knowledge regarding sexuality, fertility and conception (Morhason-Bello et al., 2008). In many Nigerian schools, sexuality education for adolescents has been a contentious matter (Morhason-Bello et al., 2008; Ojo et al., 2011). Parental reluctance towards discussing sexuality matters with their children seems to be a major concern as they typically still thinks their adolescent children are too young to be told (Morhason-Bello et al., 2008). The younger a child is, the more negatively parents view SRH education. This is consistent with the findings from this study, as young respondents reported that their parents do not provide them with the sex education they require. Thus, the acceptability of sex education among parents of adolescents depends on the age of their children, and when parents feel the time is acceptable (Ojo et al., 2011). Often information is delivered by way of threats and warnings to discourage adolescents from engaging in sexual activities: these practices are more prominent among the less educated parents (Ojo et al., 2011). This type of parental action prevents children from having information which may prevent harm. Hence, a need is demonstrated for a collaborative effort from both school and parents. Adolescents early must receive timely education on sexual and reproductive health issues in order to avoid risky sexual behaviours.

Essentialism suggests that every individual has a set of characteristics that are essential to his/her uniqueness and function (Porter, 2012). Rhodes et al., (2012), point out that social essentialism results from the interaction of cognitive biases and cultural inputs. Thus, adolescents' cognitive biases lead them to presume that a number of social categories mirror essential kinds of behaviour and generic language signals to them to which categories they ought to apply these values. This is often transmitted from one generation to another. For example, factors such as culture and ethnicity among other influences, effect adolescent sexual behaviour and their responses to sexuality

messages in Nigeria. This is consistent with the findings from this study. Culture is one of the major influences of adolescents' sexual behaviour as well as their responses to sexuality messages. In sub-Saharan Africa, ethnicity is a central socio-cultural factor that arbitrates sexual behaviour (Odimegwu and Somefun, 2017). Nagel, (2000), described ethnicity as a societal group that have distinctive things such as culture, religion and language in common. Furthermore, Nagel (2000) states that gender, social class and sexuality are the utmost basis of ethnic stability and flux, although boundaries and identities of each ethnic group are generally instituted on language and belief. In Nigeria, premarital sexual initiation among adolescents appears related to ethnic group membership, although this was not considered in this study. This is not to say that ethnicity influences health outcomes directly, but to a certain extent the socioeconomic features linked to ethnic groups exert an indirect effect (Mberu and White, 2011; Odimegwu and Somefun, 2017).

Nigeria has more than 250 ethnic groups, with varying languages and customs, creating a country of rich ethnic diversity with English as their official language. The largest ethnic groups are the Hausa/Fulani, Yoruba, and Igbo, together accounting for more than 70% of the population, while the Urhobo Isoko, Edo, Ijaw, Kanuri, Ibibio, Ebira, Nupe, Gbagyi, Jukun, Igala, Idoma and Tiv comprise between 25 and 30%; other minorities make up the remaining 5% (Mustapha 2006; Odimegwu, and Somefun, 2017). Region, religion and lifestyle distinguish the three major ethnic groups in Nigeria. The Hausa/ Fulani mostly live in the northern part of the country, which is also the part of the country where Sharia or Islamic law are practised. Lower levels of educational achievement are typical in contrast to the other two major ethnic groups (the Igbos and the Yoruba) Mustapha (2006). Furthermore, Mustapha (2006) suggested that the Hausa/Fulani have little or no access to healthcare services, thus, obviously influencing their health behaviour and actions especially among the young people that reside there.

Figure 5.1. Nigeria Map showing the Ethnic Groups Constituents



Source: Bakare (2015).

However, among the Yoruba and Igbo girls, marriage takes place mostly in the third decade of their life. In contrast, Hausa/ Fulani girls' marriage may typically take place as early as before their 16th birthday (Odimegwu and Somefun, 2017). Consequently, this results in increased first birth at a very young age, early sexual debut and higher rates of maternal mortality. Among the Igbo ethnic group in Nigeria, there is a highly patriarchal system. They are typically family-focused with strong family bonds (Ilika, 2005). Males are given privileges over females; they are the decision-makers irrespective of female opinion. Men are socialised to think that they are superior to women. Women are seen as 'a property', and monogamy may be undesirable (especially in rural areas). This cultural practice encourages multiple sexual partnering (Ilika, 2005).

Also, cultural values and norms have been in existence for over hundreds of years and they are passed to younger generations (Okemgbo et al., 2002). Therefore the concentration of ethnic groups in a certain community can manipulate the young people's decision to either engage in protective or risky sexual behaviour (Carlson, et

al., 2014; Odimegwu and Somefun, 2017). Odimegwu and Somefun, (2017) hypothesized that a high prevalence of male adolescents sexually risky behaviour will likely to be observed in a society where sexual norms are laissez-faire and a common polygyny practise is in place. Thus, the ethnic and cultural group plays a key role vital and should be considered when implementing interventions for adolescent sexual behaviour in Nigeria.

5.3. EXPLAINING KEY FINDINGS.

This study sought to answer the following questions:

How might demographic and attitudinal factors influencing adolescent sexual development in the Nigerian context be best employed in order to tailor specific public health interventions?

According to Creswell and Plano Clark (2011), mixed method interpretation involves looking through quantitative results and qualitative findings and examining how the information illuminates the mixed methods question in research. The key findings in this study are presented below and are triangulated with the findings reported in relevant existing literature.

5.3.1. FAMILY STRUCTURE AND ADOLESCENT SOURCES OF INFORMATION.

The results of this study revealed that mothers and school/teacher were the most important sources and preferred sources of information on relationships and sexual matters. Although, the findings from this study further revealed that female adolescents prefer mothers compared to males who prefer school/teacher. There are possible explanations for this result. Female adolescents are closer to their mothers and look up to them as a role model, while male adolescents may shy away from discussing with their parents as against school/teacher. According to Muhwezi et al., (2015), schools are usually the most practical setting where a large number of adolescents can receive skills and information regarding SRH (although, many teachers in school feel uncomfortable discussing some aspects of SRH such as condom use). Similarly, Muhwezi et al., (2015) point out that schools may have a concern that access to SRH information can induce young people to get involved in sexual activities. Cherie and Berhane, (2012) state that adolescents prefer to stay securely in a

school environment in order to build suitable student-teacher relationships that can endorse a reduction of sexual behaviours. Okonkwo et al (2002) highlighted that after family, school is the next most important place for the acquisition of knowledge and skills for behaviour change.

Generally, a consensus is emerging regarding the significance of enhanced parent-adolescent communication in encouraging healthy adolescent sexual behaviours (Bastien et al., 2011). Parents play a substantial role in the gender and sexual socialization of their children (Bastien et al., 2011). Unfortunately, only a minority of parents talk to their children about SRH issues (Muhwezi et al., 2015). Turnbull, (2012) opined that adolescents have a penchant for discussing sexual matters with their parents, however such talks are uncommon. Feldman and Rosenthal (2000) examined gender differences in sexual communication and revealed that mothers communicate with their adolescents on sex-related matters more than fathers. This corroborates with the findings from this study where adolescents found it more important for mothers to discuss sexuality or sex-related matters than fathers. Muhwezi et al., (2015) agrees stating that adolescents find it easier to communicate freely and often with their mother than their fathers, despite the fact that they live with both parents. Together these studies demonstrate the significance of mothers in educating their adolescent child (ren) concerning sexual health matters.

Despite this, among adolescents in sub-Saharan Africa, it was identified that mothers do not completely utilize their influence to enhance more open discussion with their child(ren): they constantly communicate by employing warnings and threats or sometimes gossip rather than conversation (Wamoyi et al., 2010). This was also reported among some respondents in this study whose mothers sometimes employ threat or warnings rather than having an open discussion with them. Izugbara (2008) studied Nigerian parents, where it was identified that they prefer to be the one initiating and controlling a discussion. If their adolescent child did so this raised suspicion that they were sexually active or preparing to be. Muhwezi et al., (2015) also found that adolescents' discussions with fathers were relatively uncommon. This may be due to the fact that adolescents typically spend more time with their mothers, as they are invariably still the caregivers in the home. Muhwezi et al., (2015) found that fathers were perceived as very strict, unapproachable, intimidating, sometimes too busy and unavailable. Even when attempts were made by the fathers to communicate

with their adolescent children, they were more genial with the boys than girls. This supports the findings of Kumi-Kyereme et al., (2007) who reported that African fathers were stereotyped as 'dictators' who are deficient in listening skills and are liable to intimidate or act against their children's friends of the opposite sex.

Kumi-Kyereme et al., (2007) further stated that parent-adolescent sexual discussions were deeply gendered. For example, boys were advised to be careful, while girls were warned to keep away from sexual encounters with boys. This supports the study Wamoyi et al's., (2010) study associated femininity with abstinence until marriage and connected masculinity with sexual dexterity. Some fathers were identified not to be good role models to their adolescents, especially their sons; they unconsciously endorsed their adolescent sons into engaging in sexual activities by discussing (in a overt way) their own sexual escapades as young men. Furthermore, if adolescents are conscious that their fathers are involved in extramarital affairs, it may be difficult for them to listen to counsel from their fathers particularly on messages concerning abstinence.

This study favoured mothers as the preferred sexuality communicators, However Kumi-Kyereme et al., (2007) revealed that mothers are not regularly perceived in an optimistic light. These researchers categorised communication styles into four groups: the easy to talk to, those who are likely to avoid questions and propose that such discussions should be established with someone else (e.g. a different member of the family), those who when sexuality communication instigated act in response by shouting, and mothers who appear to have difficulty in sustaining confidentiality and are consequently tagged 'gossipers'.

Evidence from previous studies has shown that a variety of socio-demographic characteristics such as age, sex, urban or rural residence, socioeconomic status, school attendance, parent's level of education, religious association as well as other household features (such as family size and parent's marital status) have been found to be connected with parent-child sexuality communication (Kumi-Kyereme et al., 2007; Wamoyi et al., 2010; Bastien et al., 2011; Muhwezi et al., 2015). This is consistent with the findings of this study. The study of Bastien et al., (2011) claimed that parental schooling status was the imperative factor that motivated adolescents to discuss SRH with their parents. Arguably there is need for both parents to communicate with their adolescents on SRH, as they both have a substantial role to play.

Nigeria is one of the few countries that has implemented almost a nationwide comprehensive sex education programme (CSE) (UNESCO, 2012). The government policy and programme at the national level understood the urgent SRH needs of adolescents (FMOH, 2007). Two policies have been fundamental in the course the country took for ASRH. *First is the National Reproductive Health Policy and Strategy (2001)*, which set the pace for Nigeria's largest SRH education programme – the Family Life and HIV Education (FLHE) Program. It serves as the primary guide that gives an underlying structure for tackling SRH. The second one is the *National Policy on Health and Development of Adolescents and Young People in Nigeria (2007)* (Cortex, et al., 2015).

The FLHE programme which was initiated in 2003 is the fundamental part of the government's works to enhance ASRH consequences in Nigeria. The programme was designed to address SRH needs of in-school adolescents, aged 10-17 years. Even though the programme has been put into operation nationally, a current finding highlights that it has affected just 13 percent of in-school adolescents (NACA 2014; Cortex, et al., 2015). The FLHE is an auspicious programme. Therefore, a broader curriculum that will include parent information sessions where parents can learn various ways to discuss SRH matters with their children at home will go a long way (Cortex, et al., 2015).

5.3.2. HOME/ PEER ORIENTED ADOLESCENT.

The cluster analysis enabled the researcher to sub-divide the sample into two major groups. 'The home-oriented adolescents and the peer-oriented adolescents'. Home oriented adolescents are adolescents who rely on their parents for information, including sexual matters, while peer oriented adolescents rely on their peers for information including sexual matters. Further findings from this study revealed that there were key differences between these groups. These will be discussed in this section.

Yang et al., (2014) hypothesised that adolescents who have permissive and non-authoritative parents are more susceptible to peer influence than adolescents with authoritarian parents. In the same vein, Yang et al., (2014) suggested that parents' responsiveness promotes intimate relationships between parents and adolescents. Therefore, a positive parent child relationship enhances the child's enthusiasm and occasions' information sharing with parents. In turn, parents create the opportunity to

become conversant with their child's emotional and physical situation and offer appropriate assistance when required.

The findings of this study revealed that home-oriented adolescents were more likely to discuss sexual matters with their parents, while peer oriented adolescent were more likely to discuss with their peers. Buhi and Goodson, (2007) highlighted that family and peers play a very key role in the emotional and behavioural maturity of adolescents, including the development of their sexual behaviours. Family and parents are primary agents of socialisation that powerfully influence a child's behaviours and expectancies in relation to the timing and involvement in a relationship and sexual behaviours (Coley et al., 2009). Similarly, Kincaid et al, (2012) state that high levels of parental support with warmth and strong relationships considerably reduce the probability of sexually risky behaviour among boys and girls. Strong family relationships and parental involvement and support have been linked to home orientated adolescents, which encourage parent-child discussion including discussion about sexual matters. This helps a parent prepare their child (ren) for adulthood and helps to protect them from SRB (Coley et al., 2009).

Yang and Laroche, (2011) highlighted that peer's influence is particularly vital during adolescence, that is, it is a time when young people are especially susceptible to trends and ideas acceptable among their peers. Ali, and Dwyer (2011) asserted that peer influence is a crucial determinant of sexual behaviour. Peer orientation is perhaps particularly vital in adolescence, when there is no strong parent to child communication, relationship or support. Furthermore, adolescents who come from a home where there is explicit conflict, parental abuse or negligent unsupportive family relationships are more likely to be peer-oriented. This, however, may increase the probability of engaging in risky behaviours, including risky sexual activity (Donenberg, Paikoff, & Pequegnat, 2006).

Adolescents perceive that engaging in a romantic relationship and or sexual activities is the "in thing", meaning it is a trend of 'modernization' (Okereke, 2010). Findings from this study identified that, both home and peer-oriented adolescents were likely to have had a boyfriend or girlfriend. One of the most salient social transitions in adolescence is the occurrence of romantic relationships which includes having boy/girlfriends (Connolly et al., 2004). Connolly et al., (2004) asserted that among peer orientated adolescents, the increase in the peer network represents an expansion

of complementary relationships. Further, the gender make up of adolescents' peer group might prompt the timing of romantic maturity, those with numerous opposite gender peers in their group are more likely to move more rapidly into a romantic relationships than adolescents with small opposite gender groups. Connolly et al., (2004) state that the social-cultural perspective of adolescents' families' influences adolescent romantic activity. This concurs with the study of Scharf and Mayseless, (2008) affirm that relationships with both parents are connected to some extent with various characteristics of the romantic relationship. Enhanced worth of relationship with the mother was linked to good romantic relationships of a girl adolescent and postponement of their initiation of sexual-romantic relationships, while an enhanced relationship with the father was connected with a slightly better quality of romantic relationship among female adolescents. Therefore, fathers, in this case, may be seen as the guardian of their daughters' "modesty" and appropriate sexual behaviour.

The findings of this study shows that home-oriented adolescents are less likely to agree with the statement 'there's nothing wrong with sex before marriage' while peer-oriented adolescent are more likely to agree with the statement. Karofsky et al., (2001) mentioned that adolescents who engage in constructive communications with their parents are more likely to delay the initiation of sexual intercourse and vice versa. This corroborates with the finding of Gilliam et al., (2007) who concluded that great family expectations with regard to educational achievement is positively associated with delay of sexual initiation before marriage. In the same vein, Fox, (2010) confirms that home oriented adolescent fear their parent(s) would not only discover their sexual activity but also believe that their parents would be very upset and disappointed with them. Thus, home oriented adolescents are less likely to become involved in sexual activities before marriage so as to avoid their parents' disappointment.

Bingenheimer et al., (2015) posed that adolescent sexual behaviour is significantly influenced by a peer group. Adolescents whose friends are of the opposite sex have a higher likelihood of becoming sexually active, on the other hand, adolescents with same-sex friends are less likely to. Nikken and DeGraaf, (2013) highlighted that family "morals" and principles can be distorted by adolescents in order to get peer acceptance; therefore adolescents who observe their friends to be in sexual or romantic relationships are more prone to initiate sexual activities as well as acquire multiple

sexual partners: The same also applies to those who perceive that their friends/peers are abstaining from sexual activities. The findings of Bingenheimer et al., (2015) from their study conducted in two towns in Ghana revealed that adolescents who perceive that their friends condemn premarital sexual activity will not engage in such behaviour in order to avoid losing their respect within the peer group. This shows a positive peer group influence on adolescent sexual behaviour. Although it might be that the representative adolescents in these Ghanaian towns are not under severe pressure from peers to engage in sexual intercourse or acquire sexual partners. Selikow et al. (2009) propose that norms associated with adolescent sexual behaviour may perhaps be gendered. For instance, adolescent boys are more likely (compared to adolescent girls) to be peer pressured into sexual activity and to think that they can gain social status among their peer groups by having sexual partner(s).

The findings from the cluster analysis also revealed that home-oriented adolescents are less likely to agree with the statement that 'sex before marriage is okay as long as contraception is used' while peer-oriented adolescents were more likely to agree with the same statement. Olufemi et al., (2013) reveal that a lot of parents have a huge influence on adolescents' sexuality and the use of contraceptive. Kinaro, (2012) feels that views and morals of parents play a vital part in influencing an adolescent's views toward contraceptives. Adolescents who are home oriented are therefore more likely to think that contraceptives are only meant for married couples (Enuameh, et al., 2015).

Futhermore, home-oriented adolescents are less confident about condom use while peer-oriented adolescents are more confident about condom use. Parent-child communication and parental control towards sex have been identified to be negatively associated with the use of condoms (Olufemi et al., 2013) and a greater number (84.2%) of parents who participated in their study stated that they would rather promote total abstinence for adolescents as a method of contraception than educating on the use of condoms or any other contraceptives.

Wamoyi et al., (2010) found that parents find it very difficult to discuss condoms with their children. These authors found that when talking to a child about condom use, parents believed it could encourage sexual intercourse which would counter their message regarding sexual abstinence. Discussing condom use with adolescents whose

parents strictly insist on sexual abstinence may be counter productive. In their study, they also found that parents would not discuss condoms with their adolescents as they were unsure whether they were sexually active. Poor knowledge regarding the proper use of condoms among home-oriented adolescent may lead to lack of confidence in their use. Beckett et al., (2010) found that parents of adolescents usually shun discussing matters associated with sex and contraceptives use. Perhaps they perceive their adolescent child to be too naïve and immature to comprehend such sexual information or be interested in sexual activities.

Almeida and Centa, (2009) indicate that communication content between adolescent and their parents usually involves messages on avoiding the opposite sex, self-control as well as the need to avoid sexual conduct. They further claim that messages from parents to their adolescents are often based on abstinence, supposed flaws of condoms, (for example, condoms contains holes), expected time to be pregnant (only in marriage) and the consequences of STIs (Almeida and Centa, 2009).

Notably, Guilamo-Ramos and Bouris, (2008) reiterate that parents who have religious beliefs, for instance, the Christian faith may find it very hard to suggest the use of contraceptives to their children, not to talk of permitting them to engage in protected-premarital sex as this is against ‘morality’ and religious principles. Conversely, Winskell et al., (2011) mention that adolescents who have had discussions with their parents on safe sex, before the initiation of sexual intercourse are much more likely to adopt the use of condoms or other contraceptives during their first sexual experience. There is a high probability however that such adolescent will have their first sexual encounter at an older age. Interestingly, adolescent peer support for condom use was found to have a dominant influence on adolescents (Adejimi et al., 2009). Whitaker and Miller, (2000) found that peer norms about sex and condom use allied more strongly to an adolescent’s sexual behaviour particularly among adolescents who did not discuss sex and condoms with their parents compared to adolescents who did. Adolescents who perceive that their friends are using condoms during sex are more likely to be positive about condom use. Wamoyi et al., (2010) suggested that parents expect their adolescents to admit that they are now sexually active before the right advice regarding the use of a condom should be given. However, sexual activity is usually secretive, especially in young people. Parents are to be encouraged to give

their children comprehensive sex education before or at the beginning of adolescence. Applying evidence-based theory, such as the Social Learning Theory (SLT) to adolescent sexuality education can assist effectiveness. Other areas of public health education, such as prevention of tobacco use, substance abuse and violence could also benefit. Given that SLT seeks behavioural change in individuals, it seems suitable for prevention-based sexuality programme. SLT is mainly suitable for pregnancy STI and HIV prevention programme.

From this study, home-oriented adolescents tend to be female, while peer-oriented adolescents tend to be male. Sathe, and Sathe (2005) reported that boys feel more comfortable discussing sexuality issues or other sensitive issues with their friends/peers, while girls feel more comfortable discussing with their mother (parent) or older sister. Nwokolo, (2008) found that female adolescents desire information from their parent more than males, young men sometimes see, the information as irrelevant, although mothers are usually the ones involved in the discussion. Bastien et al., (2009) state that both in-school and out-of-school male adolescents have a preference to discuss sexual matters with their friends, whereas female adolescents both in and out-of-school have a preference to acquire information from their mothers. Adolescents who are peer-oriented may perhaps think that their parents are not well-informed about the subject matter and may perceive this to be too embarrassing for both them and their parents to discuss (Yadeta et al., 2014). Young people may think their parents are too preoccupied to discuss sex with them (Bastien et al., 2009). Home is the most significant place, for both male and female adolescents' sexual health education. Similarly, this study also reveals, that home-oriented adolescents tend to be younger than peer-oriented adolescents. Obare et al., (2013) indicated that younger adolescent females prefer talking to mothers about their sexual concerns while the older adolescent prefers to discuss matters with their peers and friends. This may also apply to males too. This may be because younger adolescents are more likely to live with their parents and rely on them more. Also, the older an adolescent becomes, the more likely he or she will have peer groups where issues they think their parent should not know or may shy away from are discussed.

This study confirms that home-oriented adolescents are less likely to have attended sex education classes at school while the peer-oriented peers will have done. Home

oriented adolescents prefer to receive information from their parents. It may therefore be difficult for them to agree with other sources of information making it less likely that they will attend sex education classes. This concurs with the study of Muhwezi et al., (2015) who found that female adolescents in urban secondary school appear to have greater belief and trust in their mothers (parent), than any other source of information. Hence, parents are trusted sources of information for some adolescents. For the peer-oriented adolescent, because some of their parents refused or find it very difficult to communicate with them on sexual matters, sex education classes appears to be their other source of information (Almeida and Centa, 2009). More over, they are more motivated to attend when their peers attend such classes. Families and schools each have their importance and roles in educating individuals correctly young people. Improved communication between home and school will enhance the effectiveness of sexual health programmes.

5.3.3. CHANGES IN BEHAVIOUR AND OR ATTITUDE AFTER SIX MONTH FOLLOW-UP.

Sexual development means ‘any possible changes in reported sexual attitudes and/ or conduct over a pre-specified period of time during adolescence. In the case of the current study, this was assessed on the basis of paired observations over a six-month period.

Not many changes were recorded over time; this perhaps may be due to the relatively short period of time between baseline and follow-up. After the six months follow up, findings revealed that it had become easier for adolescents to discuss sexual matters with their mother. Adolescents still value information from their mother. However, Murphy et.al (2012) affirms that many mothers may not want to communicate with their children about sexual health issues because of poor knowledge, discomfort or embarrassment. In a study by Nolitha, (2014) it was reported that social-cultural factors act as major barriers that hinder mothers from discussing sexual matters with their children. Some of the socio-cultural barriers include fear of criticism and blame that may arise from the community members, as it is still perceived by some that talking to children about sexual matters promotes sexual behaviour. In addition, the role of traditional norms in parent-child sexual discussion can never be ignored. These can act as a communication barrier between mothers and their children. Nambambi &

Mufune (2011) reported that it remains a cultural taboo for parents to discuss sexual matters with their biological children as it is believed such information should be given by a grandmother or even school. This particular social norm continues to be a major barrier where sex education is concerned.

Nolitha, (2014) report that mothers think their children may misinterpret their motives for having sexual conversations with them. Some young people may think their parents are encouraging sexual activities, particularly, when condom use and other contraceptives are being talked about. The tone and style used when discussing such matters with their children will be significant. Effective communication on SRH should not be left to mothers or parents alone, but should also involve formal interventions from religious leaders, the government and health workers and youth-friendly services.

Furthermore, this study shows that adolescents agreed that most girls and boys who have sex before marriage regret their actions both at baseline +6months. On the contrary Van de Bongardt et al, (2015) opined that boys are more likely to experience greater pride after sex, while girls are more likely to feel ashamed. The female perception accords with the findings of this study, although Van de Bongardt et al, (2015) study was not conducted longitudinally. The findings presented here may highlight an increased awareness or some sort of positive influence on both male and female adolescents who took part in the research.

Similarly, adolescents in the follow up survey are more likely to agree that girls and boys should remain virgins until they marry. This demonstrates some improved knowledge, increased awareness and/ or self-motivation at play. Interestingly Carpenter (2005) observed that there is a sexual double standard among males and females regarding virginity, and noted that more women perceived their virginity as a *gift* that ought to be given to their beloved partner, while more men see their virginity as some sort of *stigma and embarrassment* that should be got rid of as soon as possible. There is clearly a need to address gender inequality regard to sexuality in society.

Additionally, more adolescents reported that they had engaged in sexual activity in the follow up survey. Likewise, adolescents in the sample were more likely to have more boy/girl friends over the intervening period of time. This may reflect sexual

maturation over the intervening 6 months, or willing to trust and be honest with the researcher. The change may also be due to increased and improved sex education messages, including contraceptive use. Kirby (2011) identified in their review study that various sex education programmes have been identified to be helpful in positively influencing adolescent sexual behaviour as well as in decision making regarding their sexuality. Therefore, sex education programmes should be promoted and advocated for all schools around the nation in Nigeria. Such interventions will protect more young people against sexual risk-taking behaviour and offer them a healthier future.

5.3.4. Critical assessment of attitudinal measures (over 6 months' time period).

Barber, et al., (2016) highlighted that repetitive survey measurement which involve self-reporting may influence behaviour in several ways. For instance, repetitive survey questions may result in the adaptation of actual behaviour and or attitude as respondents may experience changes in inspiration, information or cognitive awareness towards the subject matter over the course of the survey. Similarly, Crespi, (1948) mentioned that survey questions might likewise influence behaviour or attitudes through the imparting of new knowledge to respondents or even motivate their thoughts about the interview or survey topics.

Even if recursive measurement does not influence actual behaviour or attitudes, it could influence reports regarding behaviours and or attitudes through social desirability bias. The ability to underreport socially undesirable behaviour and over-report customary acceptable behaviour especially on questions regarding socially sensitive issues such as sexuality are in particular prone to bias. Respondents are more liable to self-report in a way they suppose the researchers will consider positively, thus, the risk of social desirability bias may rise when questions are repeated more than once (Warren and Halpern-Manners, 2012; Barber, et al., 2016). However, the risk of social desirability bias may also vary across context, method of survey, and among social groups (Warren and Halpern-Manners, 2012).

Conversely, repeated interaction with the same interviewer, or even the same survey instrument, could boost respondents' familiarity with the survey, by decreasing uncertainties concerning interviewer bias or data confidentiality and consequently *lessen* the menace of social desirability bias (Barber, et al., 2016).

5.4. SOCIO-ECOLOGICAL MODEL AND APPLICATION TO ADOLESCENT SEXUAL BEHAVIOUR IN NIGERIA.

This section critically discusses the findings from the analysis using the four levels (Microsystem, Mesosystem, Exosystem and Macrosystem) of the socio-ecological model that was presented at the beginning of the literature review chapter.

5.4.1. MICROSYSTEM (INDIVIDUAL LEVEL).

Age and gender related factors and religion emerge from this study and are discussed below.

(a). Age related factor: As previously stated, the period of the adolescence is one of the most rapid periods of human development. Even though the order of many of the changes seems to be universal, the pace of change and timing differs amongst and within individuals. These changes are influenced by individual characteristics (such as sex) as well as external factors (such as insufficient nutrition or a harsh environment) (WHO, 2017).

Most dictionary definitions suggest adolescence as an ‘age group’. However, theoretical sociologists also identify that these age groups are cross-cut by dimensions such as; social class, status, divisions of race as well as gender (Frith, 1989). Gender concerns the psychological, social and cultural difference between males and females (Giddens, 2009). Race is some clear physical differences between human beings, some of which are inherited (Giddens, 2009). Social class may be based on the social stratification an individual belongs in a society which is often mapped out by their occupation while status refers to the esteem or social honour given to individual or groups (Giddens, 2009).

A common sense belief pervades that people of dissimilar ages act in different ways. Young people are individuals of a particular age between childhood and adulthood, who create a vital social group, nevertheless it is not easy to essentialise any particular age group. However, age is a suitable way to define adolescence; it is that one characteristic that best describes this phase of development. Age is frequently more suitable for assessing and comparing biological changes (for example puberty), which are quite universal compared to the social changes, which usually differ within the socio-cultural environment (WHO, 2017).

Frith (1989) described the word adolescent as the facet of people's social position which is a result of their biological age although not totally determined by it. For instance, the end of adolescence supposedly signifies the start of assuming adulthood responsibilities and roles such as getting married, having children and own household, work, (starting a career or owning a business). Therefore, at different ages people stop being young, dependent on several factors which may be at play. Some young people plan to 'end being young' and proceed to adulthood while others are forced to end being young due to unexpected situations in life. For example, in Nigeria, some adolescent girls according to Islamic law are married at the age of 11 years, which ends essentially their age of being young, while some young people may 'decide' to get married at 16 years. Other young people who have lost their both parents take up adulthood responsibilities in order to care and cater for their younger siblings by dropping out of school, and working to make ends meet. Furthermore, in some societies many 18 year olds behave like children while in other societies 15 year olds behave like adults. In as much as everyone is expected to make the move from being a child to adult, this transition is different in different societies and at different times, which could take days or years. In other words, comparing similar age groups in distinct societies or at distinct historical times can be very complex, if not impossible.

The average age of participant in this study is 14.07 years, although this research only recruited adolescents within the range of 12-16 years, which falls between early and middle adolescence. Age at first sexual intercourse is a significant pointer of exposure to unwanted pregnancy, STIs, including HIV, increased menace of HPV infection, cervical cancer and an impediment in maturation aimed at healthy adult psychosocial adaptation (Nnebue, et al., 2016). Almost nobody in the study claimed to be sexually active, which may be due to social desirability bias. Furthermore, this study revealed that adolescents between the ages 12 to 14 year olds compared to those between the ages of 15 to 16 year olds were more likely to agree with the thought that one should be in love with someone before having sex with them. Thus, age is crucial, as it has the probability of influencing adolescents in their sexual decision-making. In the same vein, findings from the qualitative part of this study revealed that the extent to which adolescents accept sex education or sexuality information is dependent on their age and the age of the person giving out the information. Some of the adolescents perceived they were too young to receive sex education at the age they were given such information (as early as 10 years) while some prefer somebody older than

them to give sex education such as older siblings, parents, teachers, and other older relatives. Perhaps they believe age comes with experience.

Furthermore, early age of sexual debut has been connected with an increased number of sexual partners in a lifetime, increased rate of school drop-out, and disadvantageous social and economic impact (Mmbaga, et al., 2012). These negative impacts are outside the scope this study. In Nigeria, early sexual debut among adolescents is a recurring public health concern. Among female adolescents, the median age of sexual initiation among girls, is less than 15 years old. While the median age at first sexual initiation is slightly higher at 16 years for the boys (Mmbaga, et al., 2012). Thus, there is clearly a need for sexual health intervention for adolescents at an early age. Other studies suggest that as an adolescent grows older, the more likely liberal attitudes towards sexuality will exist (Adegoke, 2014). Age is a significant demographic characteristic that needs to be taken into consideration when addressing the issue or initiating an intervention related to adolescent.

(b). Religion: In Nigeria, religion is another great influence on the SRH indices. The result of this study indicated that majority of the respondents practise Christianity (25.62% were Muslim while the 74.30% were Christians). This was not surprising as Christian faith is one of the predominant religions in the chosen area of research. Religion has been identified to play a significant role amongst young people in the world (Heidi et al., 2017). Heidi et al., (2017) further argued that religiosity in adolescents increasingly promotes a positive internal state such as self-esteem and shields against negative internalised states such as depression or risky sexual behaviour. Furthermore, young people who are religious as compared to the less religious ones have been identified as having a great sense of meaning and purpose in their lives (Smith and Denton, 2009). Adepoju, (2005) states that religious practice plays a significant role in a person's sexuality given that ideology, rules and customs influence everyday relations. This is consistent with the findings of this study where a significant association was found between religious practice and refusal to have sex with someone who is not prepared to use a condom. Also, adolescents who practice Christianity were more likely to agree with the statement 'I would refuse to have sex with someone who is not prepared to use condom' ($U=1,059,000$, $P \leq 0.036$). This may be because religion frowns at premarital sex or simply the desire to avoid unwanted pregnancy and or STIs, (which can bring shame and banishment from

religious organisation to which they belong it if detected). Odimegwu, (2005), identified that most religious groups disapprove of sex before marriage. Therefore, adolescents' compliance to this may depend on their level of commitment to religious organisations. Odimegwu, (2005), further hypothesised that young people who attend religious services are more likely to receive regular religious messages against premarital sex. Although, frequency of message broadcast does not automatically lead to attitude change, as people actively resist new information. Furthermore, Adegoke (2014) found that the influence of religious beliefs and association was found to have a significant impact towards adolescent sexuality, though this influence depends on the particular teachings of each religion. Adepoju, (2005) asserted that some of the positive effects of religion on sexuality include; delay of age towards sexual debut, reduced pre-and post-marital sexual tolerance, and accountability in relationships such as marriage and parenthood.

In Nigeria, Christianity is perceived to be less strict and malleable to societal revolution, whilst Islam maybe less malleable to any issues whose content is inconsistent with its principles. Both religions persistently pose an intimidating challenge to the effective implementation of sexuality education. Furthermore, Sabageh et al., (2014) highlighted that there is a difference between Muslim and Christian religious practice in relation to the impact of education on sexual debut. Furthermore, it is firmly believed that religious knowledge, either Christianity or Islam impel children to adopt religious attitudes towards life. Whilst both religions may disagree with the need for sex education, through 'modernization' a lot of things appear to be changing. Medical practitioners are now allowed into religious organisations to bring about sensitization on a range of health issues, prevention and management.

Though religion has been generally identified to delay sexual debut among young people, evidence from the qualitative part of this study reveals that religion may also be a potential risk factor for early adolescent sexual activities. For instance, the particular style of Islamic observance practiced in Nigeria tolerate (and in some cases even actively promote) early female child marriage. Conversely, Sabageh et al, (2014) reported an increase in age at first sex among Muslim women; this was attributed to increased secondary education and, increased awareness. Nevertheless, most religions in Nigeria still uphold a clear assertion about the unsuitability of sex before marriage

and stress the need for sexual abstinence until wedlock. Involving religious leaders in the implementation of SRH programmes for adolescents presents challenges but ignoring these leaders is not an option.

Religion and culture are often interrelated; collectively, they promote essentialist world-views (Porter, 2012). Religion can be described as how a group of people become followers of a belief and practices and in the process create a collective religious identity. The type of religion an individual belongs to influences how connected they are to their religious beliefs, which perhaps might influence their perception towards any form of change. Also, cultural essentialism is a system of beliefs inculcated during development as cultural subjects. Human beings are also culture bearers who are situated within a bordered world. This defines identity as well as distinguishing people from other people (Grillo, 2003). Toosi and Ambady (2011) hypothesized that religion may influence the way people view the world, and also how information is being interpreted and organised. In some religious societies, an individual 'automatically' becomes a member by the virtue of their parent's background, culture or ethnicity. This makes religion and culture interconnected (Toosi and Ambady, 2011). Although, some individuals from a particular background are given the opportunity to 'choose' the religion that best suits their personal beliefs and some are invited by other faith societies to join them. For instance in Nigeria, the majority of the Hausas residing in the northern part practice the Islamic religion as this is predominant in this region of the country. Broadly, religious beliefs may perhaps create the confines for change or even limit change altogether.

(c). Gender related factor: This study revealed that both adolescent boys and girls are sexually attracted to their opposite sex, and almost half of them have either had a boyfriend or girlfriend. However just a few disclosed having had sex before. It is likely some adolescents engaged in romantic relationships and did not have sex. It also seems possible that these results are due to the sensitivity of the research topic, and the fear of disclosing their sexual behaviour may have resulted in underreporting. This study also reveals that male adolescents were more likely to express sexual attraction to the opposite sex than female adolescents. This is consistent with the study of Puente et al., (2011) who found that more male adolescents than females have had sexual relations at least once and have engaged in sexually risky behaviours. Although it is possible that, male adolescents could have over-reported their sexual activities/

experiences while female adolescents might have under-reported sexual activities and experiences in an effort to succumb to religious and cultural norms regarding sexuality. The disparities in sexual relations between genders may be due to the power relations of double moral values in the society (regarding sex) such as unequal sexual freedom and rights given to men and women, implicitly allowing an increase in sexual activity amongst boys and sexual abstinence in girls (Ceballos and Campo-Arias 2007; Puente et al., 2011). Ceballos and Campo-Arias (2007) hypothesized that the standing differences in relation to gender are likely to disappear by about 24 years of age. The inequalities in gender relations among adolescents found in this study and other studies reveals the necessity for strategies to tackle traditional cultural values, and stereotypes among adolescents and not just a knowledge-based programmes.

5. 4.2. MESOSYSTEM (RELATIONSHIP LEVEL).

Within this level, family/parent and peer relations will be discussed.

(a) Family/parent: This study shows that there are significant differences in sexual health beliefs based upon parental occupational class. Adolescents from middle /professional classes were more likely to express sexual attraction to the opposite sex than from working class parents. Social class depends on the adolescent's parent's educational attainment, family structure and income level. The findings from this study support the claims of Isiugo-Abanihe and Kola'A, (2004) who identified a high level of "moral decadence" among young people from rich and wealthy homes in the major cities and schools in Nigeria. This may be partly because some parents abandon their parental responsibility while pursuing their professions. Interestingly, many professional affluent parents do not live with their children but may live overseas while their children remain in Nigeria. Mostly these children live with their mother or some kind of surrogate parent or may even live alone. Some professional parents stay within the country, but relocate to Abuja (the federal capital territory) or some other cities where they have business interests while their children remain in Lagos or some other cities. Many of these parents lavish lots of money and other valuable material and gifts such as (media and internet facilities, mobile phones and even automobiles etc.) on their children as a way of compensating them for their lack of physical presence. They may even equate parental love and care with making money and material goods

available for their children. This increases exposure to sexual activities among this subgroup of adolescents as well as opportunities for interaction between young people of the opposite sex.

Santelli et al., (2000) suggested that adolescents from middle class families were liable to increased sexual behaviour. Similarly Ceballos and Campo-Arias, (2007) observed that the higher the socio-economic level the more likelihood of engaging in adolescent sexual intercourse. However exposure to harsh economic conditions may make adolescents in lower socio-economic groups engage in sexual activities, in order to meet their daily needs, through transactional sex or cross generational sex. This phenomenon may also be attributed to lack of parental supervision (may be due to the type of parent occupation) and social inequality. Caballero Hoyos and Villaseñor Sierra (2001) highlighted that the norms of sexual activities, are more variable within those from higher socio-economic levels. Isiugo-Abanihe and Kola'A, (2004) hypothesized that a child (ren)'s well-being may not always reflect the income status of their parents or family. Some wealthy parents might not provide for their children and thus, some of these children may seek money from other sources.

(b). Peer/friends factor: A peer is a person who has equal standing with another in respect of age, background, social status and interests (Abdi and Simbar, 2013). Peers/friends play a vital role in the psychosocial development of most adolescents. Generally, peer pressure has been identified in literature as an important influence on adolescents' sexual behaviours (Dekeke and Sandy, 2014). Similarly, Kirby (2007) found that best friends or peers have strong influences in adolescent relations. This study found that adolescents are pressured by peers/friends to have sex. However, it was female adolescents who were more pressurised by their peers/friends to have sex compared to the male adolescents. On the contrary, the study of Wang'eri and Otanga (2013) indicated that more boys than girls are influenced by their peers to engage in sexual behaviours. The pressure among boys to engage in sexual initiation is one way to prove their masculinity, which is vital to gender disparity (Oliveira-Campos et al., 2014). This study found that female adolescents participated in more sex than male adolescents. In the same vein, evidence from the qualitative strand reveals that female adolescents lack skills to overcome pressure from peers or friends to have sex. This finding is consistent with the study of Envuladu et al., (2007) who hypothesised that gender roles and uneven power relations can also be correlated to economic

disadvantage and a girl's incapacity to negotiate safer sex. Thus, there is a need for schools to develop and implement programmes that train adolescents in areas of sexual assertiveness and how to oppose negative peer pressure.

5.4.3. EXOSYSTEM (COMMUNITY LEVEL).

Mass media and school influences are discussed in relation to communities.

(a). School related factors: Evidence from this study has revealed that adolescents who attend private school were more likely to have boy/girlfriends than those in the public sector. The findings from Ceballos and Campo-Arias (2007) found that studying in a private school is a feature associated with having engaged in sexual intercourse. Nevertheless, a number of previous studies have reported that studying in public schools is associated with engaging in early sexual behaviour (Navarro Gochicoa et al., 2003; Slap et al., 2003; Banjade and Pandey, 2015). For instance, Banjade and Pandey, (2015) reported that students in public school were more likely to engage in sexual intercourse with and without the use of condom. The characteristics of public and private schools are different in many various ways; however, it is much more likely that other features (such as socioeconomic status, family structure and living conditions) of the population under study may influence sexual behaviours. However, Seiffge-Krenke, (2003), stated that adolescent romantic relationships, especially in early teenage years, are short and not so emotionally attached compared to adults' relationships. Furman et al., (2002), also opined that adolescent romances are vital learning experiences that can certainly enhance self-development and prepare young people for later romantic relationships.

(b). Mass media factor: Mass media are ubiquitous in the lives of young people. Influence is all pervasive during adolescence, and especially for sexually risky behaviour (Brown and Cantor, 2000). In 1981, the first influences of media on sexual behaviour were reported in a sex education newsletter. Due to the influence and scope of the media in today's culture, many perspectives are accessible. These can be portrayed with either positive or negative sexual knowledge, attitudes or behaviour (Brown, 2008). Huesmann, (2007) asserted that major changes in the social environment in the 20th and 21st centuries can be attributed partly to cultural and mass media influence. A finding from this study found media as a potential source of influence encourage sex. This corroborates with Brown's (2008) study that claimed

that media exposure to sexual content has repeatedly been linked with enhanced sexual risk behaviours among young people.

Further, in this study, media influences were found to effect male adolescents more than females. Perhaps male adolescents could have over-reported their sexual activities/ experiences while females might have under-reported in an effort to appear the to religious and cultural norms regarding sexuality. Also, maybe male adolescents spend more time on social media. In most African homes, female adolescents assist their parents (mother especially) with house chores and cooking when they come back from school, which leaves them limited time to engage in other activities.

However, Karniol, (2001) stated that girls who are in their early adolescence are likely to identify with media icons who reflect their phase of romantic interest, and tend to focus on feminine icons first before showing interest in boys, even as their sexuality develops. Hence, media may represent an important content for sexual development (Brown, 2008). In addition, Olumide and Ojengbede (2016) claimed that adolescent girls have a strong penchant for network television programmes with sexual content in contrast to adolescent boys. While adolescent boys make use of the internet more, where they can be exposed to pornography, online dating etc. Collins et al., (2004) argued that girls watched sexual content more on TV than boys though the influence which it may have on them might be different. Also, adolescents who are younger watched sexual content more than older adolescents. This may be due to immaturity as well as increased curiosity of younger adolescents. Also, adolescents who have a TV in the bedroom are liable to an increased exposure to sexual content. A need for vigilant parental supervision arises with improved TV control to curb what adolescents watch. Evidence has shown that adolescents concede that media serves as a source of learning about sexuality, relationships and love. Therefore, as sexuality information may be readily available at home, adolescents seek media information and respond to it with in their own life contexts. Gender, social class ethnicity and developmental phase all (in turn) will influence their choices of media (Brown et al., 2005; Brown 2008).

Brown (2008) further highlights that females who have been extensively exposed to sexual content on TV were found to anticipate sex at quite an early stage in relationships. They do not however have hopes regarding particular sexual behaviours. On the contrary, males who view a considerable quantity of televised sexual content

anticipate more variety in sexual behaviours. Their prospects concerning the timing of sexual activity in a relationship are interestingly similar to males who view less sexual content (Aubrey et al., 2003). Televised sexual exposure has been found to be a predictor of having friends who are sexually active, engaging in safe-sex, having self-efficacy and being more pessimistic about sex and romanticism (Martino et al., 2005).

According to the theories of media effects, diverse sorts of content will have diverse kinds of consequences and it is vital to recognize the types portrayals to which young people are exposed. For instance, the effect of TV may be different from the effect of the Internet. Based on the theories of media effects, media influence is subject largely to the composition it includes. A large amount of research connecting media and sex (mainly research on attitudinal outcomes) has concentrated on television. Television viewing continues to be generally the widespread means and platform, and also constitutes the main media use among adolescents. It accounts for 4.5 hours of adolescent media time out of virtually the total 11 hours used up on media each day (Rideout et al., 2010). Collins et al., (2010) affirmed that television contains an enormous amount of sexual content. Thus, television has a great opportunity to influence adolescents' early views regarding sex. The significant relationship between media and adolescent sexual intent or behaviour may perhaps be due to the role of media as an imperative source of sexual socialisation for adolescents (L'Engle et al., 2006). In the same vein, the stage of adolescence (developmental phase) is characterised by a passionate information quest, particularly on adult responsibilities, and lack of information regarding sexuality, may force adolescents to rely upon mass media for information (Sutton and Wilson, 2001).

Envuladu et al., (2007) stated that media as a source of adolescent information determines their sexual behaviour. The internet and other forms of social media, which are readily available to adolescents, contain much information that cannot be and may not be suitable for adolescents. The study of L'Engle et al., (2006) found a significant association with between media influences and early adolescents' sexual intents and behaviours. This finding is in agreement with Brown et al., (2005) that at best, media could be some kind of sexual 'excellent peer' for adolescents in their quest for information regarding sexuality. Sexual matters in the media are pervasive and effortlessly available and in most cases the sexual information is provided by recognizable models. L'Engle et al., (2006) further hypothesized that the media sexual

content alongside with peers influence could pollute the positive impacts of SRH programmes organised in school.

Furthermore, as young people utilize the media consistently, it is possible that knowledge from this source may possibly outweigh information obtained from their real-world peers (Brown, 2008). Accordingly, media personalities might turn into “super peers,” and operate as practical role models for young people who are discovering who they are and how they ought to conduct themselves as sexual beings (Strasburger and Wilson, 2008; Brown 2008). Media may regularize the giving of consent for sexual activity, and this may countermand parental dissatisfaction. Therefore, media could potentially be the prevailing influential and widespread power on the sexual attitudes of young people as well as their decision-making (Brown 2008). This suggest the importance of sex education programmes embracing media.

5.4.4. MACROSYSTEM (SOCIETAL LEVEL).

Social structural and socioeconomic factors are discussed here within the final component of the thesis framework.

(a) Social structural/ socioeconomic factors: In the context of this thesis, these factors will be discussed together as they are interrelated. The current study found that 85.95% of the respondents live in the city, 13.22% in town while 0.83% live in the village. Respondents who attend public (government) schools were adolescents who resided mostly in the village or town (rural community), while respondents who attend private school were adolescents who resided in the city or town. School attendance may be entirely due to the social economic status of the parents. The socioeconomic status individual significantly influences housing and location and will also influences their sexual behaviour and thus, a person with low-income status will experience different rational norms from an individual in the higher income group. Socioeconomic status has been associated with reproductive health effects (such as unintended pregnancy, adolescent birth rates, and child mortality), (Santelli et al., 2000). Furthermore Adepoju, (2005) identified that sex educators have associated the issues of self-irrelevance and low self-worth with poor socioeconomic background and insufficient sexuality information. Adepoju, (2005) noted that people with low-income status are more likely at an earlier age to become pregnant and bear children. Thus, a need to put adolescents’ place of living as well as their socio-economic status (as

identified in this study) into consideration when developing sex education intervention.

Smaje, (1995) asserted that the kinship patterns, residence, gender relations and social interactions differ between ethnic groups and these may have a direct influence on their health and experiences of illness and disease: also such differences may possibly influence utilisation patterns of health care services. For example, Nigeria is a patriarchal society where important decisions such as external social affairs and economic affairs are made by males, particularly in the rural societies. The decisions whether or not a woman or married adolescent would go for family planning or use contraception in most cases would be decided by the husband.

Though men and women may live in the same environment, their biological differences determine their status. The reproductive health status of women is strongly influenced by who they are and where they live (Doyle, 2000). The experience of being a male and or a female differs considerably between cultural groups and communities. Similarly, the impact of gender on well-being varies too. For example, the implications for the health of a woman will be very different depending on whether the 'femaleness' in question is mediated through poverty or wealth, through an urban cosmopolitan existence or life in a traditional village (Doyle, 2000).

Research conducted by Umeora and Egwuatu (2008) identified that the mean age of menarche among rural adolescents was 15 years whereas Ezem (2007) reported 13 years amongst female adolescents in the urban settlements. Furthermore, Sabageh et al, (2014) suggested distinctions, in the puberty development of adolescents in urban and rural settlements: urban adolescents attain maturity earlier than rural adolescents. This may perhaps not be wholly attributed to socioeconomic status, but can also be attributed to genetic factors, growth and nutritional status, environmental conditions, and level of education (Sabageh et al, 2014). Sabageh et al, (2015) claimed that socioeconomic class is a major predictor of realization of puberty, higher or upper socioeconomic class children experience earlier puberty. In Nigeria, inequalities associated with socio-economic status and living conditions may perhaps be responsible for differences in puberty timing (Fatusi, and Blum, 2008).

Crockett et al, (2003) found an association between socioeconomic status of families and sexual activity among adolescents. For instance, low family income and low

educational attainment of parents are correlated with a higher probability of adolescent intercourse (Crockett et al., 2003). These associations may perhaps reveal the disparities in seeming life chances and accessible social roles.

The study of Yaw Amoateng and Kalule-Sabiti, (2013) found a significant association between a family's socio-economic status and adolescent sexual behaviour. They found that the boys from poorer family backgrounds have less likelihood of reporting both lifetime and current sexual activity whereas boys from a better-off family are more likely to report their sexual behaviours. This difference may infer that a luxurious and liberal environment favours the attraction and interaction between young people of the opposite sexes, and so predictably prompts sexual expression. These findings were in accord with the study of Isiugo-Abanihe and Kola'A (2004) who affirmed that adolescents who have access to media information are often those from high socioeconomic groups. They subsequently are more sexually active than those who have limited or no access to media information and adolescents from homes with low socioeconomic status. Isiugo-Abanihe and Kola'A (2004) reported that adolescents who are from low socioeconomic homes started sexual activities a full year earlier than adolescents from medium or high socioeconomic backgrounds. Therefore, the higher the social economic status the lower the probability of sexual experience among young people. However, in some cultures, young men at a particular age are obliged to become involved in sexual behaviours in a socially sanctioned way, regardless of socioeconomic status, as a way of proving their masculinity (Doyle, 2000). Therefore, differences in socioeconomic status, age, and culture among both adolescent males and females require a cautious investigation and are complex matters.

5.5. INEQUALITIES AND ADOLESCENT SEXUAL HEALTH.

Globally, inequalities in health are evident among diverse groups in all societies. Usually inequalities correlate with income level. In Nigeria, inequality cuts across various dimensions, including economic social, gender, geographic and political. Inequalities impact hardest upon poor and vulnerable groups in society. These groups of people are often at times confronted with various kind of inequality, resulting in social exclusion and marginalization. Inequalities impact on all ages, and in this thesis context their consequences for young people are considered.

The sexual and reproductive health of adolescents is strongly related to their distinct social, cultural, and economic setting. Access to health care and sources of education, information, and support differs extensively (Morris and Rushwan, 2015). Inequalities among adolescents can also be measured using possible indicators that can be derived from two sources: a) adolescent's personal social position which is defined through schooling and level of education, b) family's wealth and affluence, that is, possession of material goods. This reflects the standard of living of adolescents (Koivusilta, et al., 2006). From this study, adolescent's position and socio-economic status has been identified to influence adolescent sexual behaviour. Thus a need to put inequality into consideration when developing SRH programmes.

According to Santana (2002), decrease in social inequalities in health is seen as a vital means of tackling social exclusion. Unfortunately, many approaches and prevention programmes do not consider adolescents' economic vulnerabilities and also are not directed to suit the particular adolescent's needs: rather, they tend to be centred towards meeting adults and children's needs (United Nations, 2000). Santana (2002) further suggests that though disadvantaged people have needs for more health services compared to the general population, it is essential to identify in more detail their utilisation of health service as well as their satisfaction with the health services.

Evidence from the research presented has identified that adolescents may be confronted with embarrassment when needing or requiring reproductive services and experience uneasiness in utilising the services. Reasons may be attributed to the belief that such services are not planned or meant for adolescents. Adolescents might feel ashamed to utilise such services particularly when such visits are as a result of sexual coercion and/ or abuse. In the same vein some of them may have fears of contraceptive methods (including side effects), medical procedures and concern lack of confidentiality and privacy. Therefore, health services and facilities must abide by medical ethics as well as respecting cultural diversity that exists, including gender sensitivities. Therefore the need for clear policies and guidelines, emerges which should underline government commitments when addressing adolescents' reproductive health issues and concerns.

Furthermore, the physical proximity of health care facilities, including primary health care centres and how easy it is to utilize these services for local residents (especially people residing in rural areas) are basic determinants on how care is being accessed.

For instance, an adolescent residing a rural community, who was raped or had unprotected sex, might not have access to emergency contraception and/ or immediate care needed. It is generally agreed that such facilities are usually more efficiently provided in the wealthier or urban areas and communities, where there is arguably a lower demand for them according to the ‘Inverse care law’ promulgated by Tudor Hart in 1971, (Smaje, 1995). From this study and Nigerian evidence, young people in cities may need more accessible services (due to transactional sex/exploitation that may occur among adolescents)

Adolescents are therefore confronted with diverse challenges as a result of their gender roles and unequal power relations, endorsed by the society. For instance, some male adolescents may have to live up to their societal expectations to prove their maturity and manhood, whereas, some female adolescents may be coerced into having sex and may not be able negotiate the use of condoms. Thus, unprotected sex may not totally be an intentional act (Envuladu, et al., 2017).

Likewise, lack of privacy and judgment-free environments can act as obstacles to girls receiving SRH information, learning or acquiring skills. Young people need to feel supported when voicing apprehensions associated with their lives and issues on SRH (Svanemyr et al., 2015). In the same vein, poor economic conditions generate a climate for sexual abuse of the financially vulnerable. Adolescent girls from low income families, for instance, could barter sexual favours for money and or goods and services exposing them to higher sexual risk such as unwanted pregnancies and sexually transmitted infections (Cortex et al., 2016). Furthermore, increased levels of poverty and lack of required resources for vital needs and expenses are related to increased susceptibility to adolescent’s poor SRH outcomes, particularly girls, for a variety of reasons. For example, evidence shows that women in sub-Saharan Africa are at increased risk of STIs including HIV and unwanted pregnancies, partly, due to transactional sex for money for essential necessities, school fees and other material things (such as, mobile phones) (Svanemyr et al., 2015).

Education has been continuously found to be connected with a large range of improved out-comes of SRH (which may include; the use of contraceptives age of marriage, number of births and utilizing health care services) especially secondary and tertiary education. Evidence has shown that in low and middle income countries, adolescents who presently are in school are less likely ever to have engaged in sexual

intercourse compared with those adolescents who are not in school or leave school early. Moreover, the more years' adolescents remain in school, the higher the likelihood that they would use modern contraceptives (Svanemyr et al., 2015). Inequality without doubt has a major impact on adolescent sexual behaviour. Hence a need to address this when developing SRH intervention.

CHAPTER SIX

CONCLUSION

6.1. CHAPTER OVERVIEW.

This chapter summarises the main findings from this study and considers the strengths and limitations and the implications of the findings for practice and policy. Finally, this chapter considers the contribution to knowledge and makes recommendations for future research.

6.2. SUMMARY OF STUDY.

Unwanted pregnancy, abortion, STIs including HIV among young people in Nigeria continues to present a major public health burden. In Nigeria, the issues of sexuality are complicated by ignorance, religiosity and the consequences of patriarchy. The secrecy that surrounds the subject of sex discourages every form of openness regarding sex and sexuality generally. Despite the fact that the older generation tend to be more conventional in discussing sexual matters with their younger counterparts, the younger generation tend to reflect a more open-minded approach towards sex. In spite, of the impression of liberal attitudes towards sex among young people in the country, religious institutions and parents generally provide little regarding sexuality education- predominantly for the reasons that they regard the theme to be forbidden and discussing it with their children as a taboo.

However, identifying barriers to adolescent sexual and reproductive health and sexuality education will help to improve practice and influence policy on how to reduce the increased burden of unwanted pregnancy, abortion and STIs among young people. This mixed method study to explore the sexual development of adolescents in Ibadan, Oyo state, Nigeria, provides a broad understanding of what influences adolescent sexual development and factors associated with adolescent development. A key finding from this study stems from the quantitative aspect of the research. A binary outcome of home and peer oriented membership identified the predictors: gender; age; occupational class (of parents); ease of discussing sexual matters with father; ease of discussing sexual matters with mother; attendance at sex education classes at school; and, attitudes towards sex before marriage. Although, further inspection of the Wald criteria demonstrated that none of these predictor variables were of significance in determining 'group membership to either 'Peer Oriented' or 'Home Oriented' groups. In-addition, the findings from the interviews show how rational/ situational context and identity work/ moral accounting (reputation) influences adolescent sexual development and behaviour. Listening to young people in

this study helps to provide an in-depth understanding of factors influencing adolescent sexual behaviour. The findings from both the quantitative and qualitative phases of this work have addressed the research aims.

The six month follow-up revealed limited perceptual and attitudinal change towards sexual matters amongst the participants. Fewer participants agreed with the statements: 'most girls and boys who have sex before marriage regret it afterwards' , 'girls and boys should remain virgins until they marry' as compared to before; and tended to agree more with the statement 'It is mainly the girls responsibility to ensure that contraception is used regularly'. Also, the participants reported having more boyfriends/girlfriends at 6 month follow up. It is however, difficult to causally attribute that this is because of maturation. Similarly, as compared to the first survey the number of adolescents who claim to have ever had sex before had increased as compared to baseline. Collectively, these findings underline the need for increased comprehensive sexuality education among adolescents which should include parents who can be supported to address their children's questions. Approaches and styles with which to educate their children can be explored. Furthermore, there is a role for the government to tackle inequalities that prevent adolescents from accessing the required sexual and reproductive health care facilities, especially those adolescents who reside in rural communities. Health practitioners need to be ethical when attending to adolescent sexual needs rather than being constrained by cultural taboos. The government needs to also provide easily accessible open clinic in or near schools for adolescents.

6.3. STRENGTHS AND LIMITATIONS OF THE STUDY.

The process of applying mixed method research has helped to broaden the knowledge of the researcher. However, the strong points emerging include the added knowledge to, adolescent sexual development. The pragmatic approach used to address the research objectives has been validated. However, mixed method research has strengths and limitations. The strengths will be highlighted followed by the limitations within this study's contexts. Using a mixed method approach took a pragmatic approach drawing on both qualitative and quantitative paradigms, therefore permitting the researcher to employ the methodology that fits best with different research aims. Thus, joining methods gives an enhanced understanding compared to when just one research method is adopted (Creswell and Plano Clark, 2007).

Another strength of this research is the longitudinal design. Respondents were followed up for a particular period of time to explore changes in behaviour, attitudes, perceptions and beliefs on sexuality matters. The qualitative phase provided data on individuals, contextual, cultural and socio-structural factors associated with adolescent sexual development and sources of their sexual education. Utilising a mixed methods approach provided both depth and rigour to the analysis and a triangulated logic to the research questions. Merging numerous data collection approaches can be advantageous as this potentially provided multifaceted data concerning adolescent sexual maturation, effects of gender, socioeconomic status and the likely impact of culture and time. My background as a public health practitioner coupled with my previous experience of working with adolescents became an advantage, as it allowed me to form a good rapport with the adolescents and therefore was able to collect ample information within a reasonable time period. All interviews were conducted in the schools of the respondents in a separate room, where there were no parents, teachers or colleagues around. Some respondents decided to take part in the research because their friends in school were also taking part. Being able to conduct the interviews in a controlled environment was an advantage.

However, this study should also be considered in the light of its limitations. First, the longitudinal part of the research was relatively short (six months), although, this is partly due to the fact that the researcher is a full-time research student and needs to work within a particular time frame. Allowing a longer period of follow-up such as a year or more would have brought more confidence in attributing change to maturation. Secondly, due to the sensitivity of the topic area, the researcher realised that many young people, were at first reluctant to cooperate. Once they knew the research was about sexual behaviour, the researcher made great efforts to reassure that the study was easy, confidential and as pleasant as possible. The whole process took time, as there were quite a number of questions in the survey while the interviews also required sufficient time for explanation and probing. However, this time consuming process contributed to the rigour of the research process. In the same vein, adolescence as a period of development may have influenced the validity of feedback in the surveys. Cognitive and social development in adolescence occurs at different rates. It is likely that a potential bias could have occurred through learning effects created by the survey. Over the interval of six months students could have modified and improved

possible response to the survey questions, as they were already aware of what is being studied, and already familiar with the survey instrument. Similarly, variations in cognitive and social development, including gender and cultural variation could have influenced what adolescents were ready to disclose and to what level they wished to partake in the study.

Despite the fact that the researcher allowed a short time period of six months to follow up about 18 respondents were lost to follow-up during the second phase of quantitative data collection. However, the findings gathered were still sufficient to allow for statistical analysis. It cannot be assumed that valid and reliable information about young people's sexual behaviour can be easily captured just by asking or by means of the survey due to the sensitivity attached of the topic area. Even though all efforts were made to assure respondents about the confidentiality of their responses and information, the use of a self-reported sexual behaviour instrument has the potential to promote social desirability bias, and also response bias (Creswell and Plano Clark, 2007).

The limitations of a PhD project meant that the researcher conducted analysis on her own. Consequently, multiple researchers cannot possibly independently verify data analysis confirming the degree of concordance between separate analyses. Nevertheless, the reliability of the findings was examined by supervisors and by independent research colleagues. Finally, the validity of a mixed method study can be very complex. Onwuegbuzie and Johnson (2006) asserted that assessing validity in a mixed method study is complex, as a result of the problems associated with combining qualitative and quantitative research. Furthermore, sampling methods and sample size may perhaps constrain the kind of statistical measures that could be utilised as well as the ability to generalize the findings to a larger population. The sample consisting of 121 students is perhaps too small from which to generalise. As a larger sample size would have permitted further advanced analytical techniques offering results with a greater confidence. Although, it is not only the sample size that is a limitation in generalizing from the findings of a study, but rather, the representativeness of that sample.

6.4. CONTRIBUTION TO KNOWLEDGE.

The findings from this study add to the body of knowledge of the sparsely researched area of adolescent sexual development in Nigeria in diverse ways. To the best of the researcher's knowledge, the research approach adopted in this study has not previously been used in the geographical and cultural context. That is, most of the studies conducted in this context have been identified to be either qualitative or quantitative approach alone. Using a mixed method approach (qualitative and quantitative methods) in this geographical context offers a unique contribution to body of knowledge and research, as this provides both numerical and in-depth views of the topic studied.

The methodological level, the use of longitudinal sequential mixed method research with the combination of quantitative and qualitative methods has never been used in combination before in the selected geographical context. A distinct contribution to knowledge by approaching participation from both quantitative and qualitative stance is offered the actual joining of the results; adopting a cluster analysis and following up prospectively provided a broad, in-depth, numeric and rich explanation from participants' perspectives.

By using a case-based methodology i.e Hierarchical Cluster Analysis, the researcher was able to identify two distinctive groups within the sample (that is, the peer oriented and home oriented adolescents). This identification would not have been possible by means of conventional linear or bivariate analysis using the variables in the survey. A similar study has been conducted in a westernized country over two decades ago; a study by Glendinning et al., (1995) on the Lifestyle, health and social class in adolescence, although, this was conducted among adolescents aged 15-16 years. However, to the best of the researcher's knowledge this research approach has never been undertaken in Nigeria. The cluster groups of adolescents from this study suggest the need for distinct intervention among these groups of adolescents in the Nigeria context. Additionally, socioeconomic factors were identified as a major influence on adolescent's sexual development. Most previous studies have tended to consider individual behaviour, culture, or gender as the primary explanatory factors. The findings of the study revealed similarities and differences regarding the sexual development and behaviour amongst respondents who attended private and public schools, occupational class of parents, and gender. These findings reveal that sexuality

is a collective experience rather than just being an individual discreet one as society and culture paints it to be. At every stage or phase of human life, sexuality is experienced and expressed differently. Although everyone experiences sexuality, there will always be variance in this experience. The complexity in accepting and recognizing difference in sexuality appears to stem from the complicated stance that sex is and ought to remain a taboo subject. In Nigeria, to a large extent, sex is considered a taboo, or understood through myth and matters of secrecy. Nonetheless, this study has revealed both positive and negative impacts of this culture view.

In addition, at the level of educational impact and contribution, the implications of this study, if adopted, could be expected to bring noteworthy benefits to researchers and students. Also, it will contribute to the existing body of knowledge and serve as academic reference point for future academic and research purposes.

6.5. GAPS IN THE EVIDENCE AND IMPLICATION FOR FUTURE RESEARCH.

This study identified the following gaps that require further research. Policy makers mostly require evidence from research in order to facilitate practical recommendations for interventions to health practitioners and service commissioners. Due to the sensitivity of the research topic, future studies should separately employ a wide variety of research methods such as qualitative face to face interviews and focus group interviews, ethnographic research, causal research, intervention studies, and systematic reviews. This would give a wider understanding regarding the research area, and potentially help in the designing, planning and executing policies and plans designed for adolescents in Nigeria.

In the current study, the longitudinal element of the research was carried out over only six months. Therefore, research employing a longitudinal approach for a year or more may provide more convincing findings. Also, there is need for further study on the gender disparities in sexual health such as, in awareness, decision-making and behaviour during adolescence. This could provide more understanding of how gender disparities in the Nigerian context can have an impact on general health and sexual and reproductive health

6.6. IMPLICATIONS AND RECOMMENDATIONS FOR PRACTICE AND POLICY MAKING.

The findings from the study draw attention to some salient points for policy and practice. In realistic terms, policy and practice are to some degree interwoven. Thus, it will be difficult to split the two in stating the implications. The study has revealed potential barriers, for example those erected by culture barriers that prevent adolescents from receiving sexuality education. The age disparity between older people (such as teachers and parents) and young people makes it hard to bring up sensitive matters such as sex or condoms. Similarly, the cultural attitudes toward sex and sexuality can turn sexuality education into a taboo matter and consequently teachers fear being stigmatised and criticised for teaching adolescents sex education. Therefore, parents (including guardians) and teachers need to be trained and educated to defeat the cultural barriers that discourage them from offering adolescents early sex education at home and in school (UNESCO, 2008). Programmes need to be developed with religious leaders on board

For home oriented adolescents, parent-adolescent sexuality discussions can be promoted through diverse means such as, encouraging school sex education homework that is designed to be done by both adolescents and parents in order to improve parent-adolescent communication. Also, parents need to be supported on how to communicate sexuality education with their children of both sexes. Similarly, the mass media should be used to implore parental involvement in offering their children meaningful sex education and consequently reducing the cultural restrictions associated with sexuality education (Akers and 2011; Malacane, and Beckmeyer, 2016).

For peer oriented adolescent, there is a need to consider peer education programmes, as these largely focus on harm reduction information, prevention, and early intervention. A peer educator is a member of a peer group that is being given special training and information and endeavours to sustain positive behaviour change among the group members (Abdi and Simbar, 2013). Peer education programmes have been used as public health strategies to promote various positive health behaviours such as smoking cessation and violence, substance abuse, STIs including HIV/AIDS prevention among adolescents (Abdi and Simbar, 2013). Thus, peer educators should be given sufficient training that will enable them to understand the purpose of the

programme, be good listeners, give encouragement, drive, and support healthy decisions and behaviours. They should also be aware of other sources of information and counselling so as to be able to refer other peers to suitable help (WHO, 2005).

Further, from the findings of this study, school happens to be one of the major sources of adolescent sex education. Therefore, teachers in school should be trained by health practitioners on different strategies of how to effectively pass across accurate sex education to their students without being shy or feeling embarrassed (UNESCO, 2008; WHO, 2009). There is evidence that teachers are not necessarily the best educator in matters of sexual health behaviour. Having a trusted stranger (professional teacher) may make better program.

This study also identified potential factors that promote and/or delay sexual behaviour in adolescents. However, many young people do not have access to decision-makers. There is therefore a need for policy makers, governments and health practitioners (including public health educators) to take suitable steps to reduce these barriers by conducting a situation and needs analysis as a foundation for systematic action. Also, it is particularly important to involve adolescents in the planning, implementation, monitoring and evaluation processes of any intervention program (UNESCO, 2008; Denno et al., 2015).

It is clear that the matters affecting ASRH in various nations are multiple and diverse and using a single homogeneous method will not effectively meet the required needs of the various adolescent groups in various communities in Nigeria (Decker et al., 2015). Collaboration amongst all key stakeholders; such as federal government, state governments, NGOs, Health workers, parents (guidance), adolescents, schools (teachers) religious and faith-based organisations and the community is required. This is because to implement an effective intervention, a coordinated collaboration is highly desirable (UNESCO, 2008; Decker et al., 2015). In the same vein, this is required so as to create an enabling environment that will foster positive sexual behaviour, enhance knowledge that will result in informed sexual health choices and decisions, and train and educate on resilience skills to deal with sexual coercion, sexual pressure and attempted rape. In Nigeria the National Adolescent Health Policy and other related Reproductive Health policies are already in place which offers a platform for state and local governments to act. There is a need for strategies that will enhance ASRH and also approaches that will help strengthen the National Adolescent Health Policy, as

these will contribute to the achievement of Sustainable Development Goal (SDG) 3: Good health and wellbeing (which includes, Child Health, Maternal Health and HIV/AIDS, and other diseases). Furthermore, there is a need to bring ASRH as one of the top government priorities by adopting existing policies as a foundation for requesting for better government participation and action (Decker et al., 2015; Denno et al., 2015).

Improvement on effective health education programmes will come through media, school, religious organisations and community aimed at adolescents to enhance their knowledge on sexual matters, promote abstinence or encourage behaviours that minimizes sexual risk taking in situations. Where education on abstinence might seem in appropriate (for example; among sexually active adolescent) contraceptive counselling should be promoted and improved upon. Likewise, due to prevailing peer influence, which has been identified in this study, it may be helpful to train peer educators to convey accurate information to their peers and friends, particularly on the fallacies regarding sexual abstinence (WHO, 2009).

From the qualitative findings of this study it was found that some adolescents do not engage in premarital sex because of their religious beliefs. This may perhaps be due to the reason that most religions (particularly those of Christian custom) perceive sex as a sin outside marriage. However, within some Nigerian interpretations of Islam the challenge is around early marriages. Various religious heads see their position as conserving traditions, culture and morality. Consequently, this may be at variance with the shifting world where young people are building their distinctiveness as well as making their own personal choices (UNESCO 2008). Religious or faith-based organizations can continue to use their influential position to promote positive sexual health behaviour among unmarried adolescents as the acceptance of well as positive health seeking behaviours (UNESCO 2008; WHO, 2009).

Finally, corruption is an unfortunate dilemma affecting the health sector in Nigeria. There is increasing evidence of negative consequences of corruption on the health and welfare of population, both young and old, at both individual and households levels. Without major reforms at government level improvement of adolescent health remains sub-optimal (WHO, 2009).

6.7. CONCLUDING REMARKS.

In almost all countries of the world, young people encounter multiple health and social challenges. It is imperative that those in power centre their efforts on easing these struggles.

This study has met the aims it set out to achieve. It has contributed to the understanding of adolescent sexual development, thus, gaining more insight on barriers to sexuality education among adolescents, factors influencing adolescent sexual behaviour, reasons for sexual decisions, pressure factors influencing sexual decisions, and reasons for lack of parent-adolescent discussion on sexual matters. The findings from this study indicate that adolescents still lack sufficient sexuality education, and also that there are various factors that influence adolescent sexual development. The cluster analysis in the study revealed some interesting, different characteristics of home and peer orientated adolescents. It is essential to create a connection linking findings from a study and policy as this, at best, will result in evidence based intervention. In aiming to reduce risky sexual behaviour among adolescents, it is essential to obtain adolescent sexual history, examine their motivation to contraception, available guidance and counselling if any, as well as available sexual education programmes. Adolescents should receive constructive support for responsible sexual behaviour as well as information on sexual abstinence and, where apt, the use of contraception.

Mostly importantly, there is need for political efforts to be channelled towards suitable youth services. Likewise, the health institutions need to pursue an inclusive approach which is, evidence-based in order to raise the competence of health workers and develop and implement intrepid programmes for, and through, adolescents.

Adolescent sexual development is an unavoidable certainty. Whilst young people of today tend to attain physical maturity earlier, they often marry later. It is the responsibility of society to ensure that, in the years between development and marriage, young people can make informed sexual choices. Tackling the universal confrontations of adolescent health is significant to the future of a country's health. Thus, improving adolescent sexual and reproductive health should be a public health priority both locally, nationally and internationally.

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APPENDICES

Appendix 1: Calculation of Sample Size

[1] Calculation of Total Population Size

Oyo state Population 10-14 = 656,500

Oyo state Population 15-19 = 595,924

Oyo state Population 10-19 = 1,252,424

(Estimated) population of Oyo State 12-16 years old = 688,800

% attending school aged 12-17 = 44%

(Estimated) population of Oyo State 12-16 years old attending school = 303,100

[2] Using Sample Size calculation tool at: <http://www.surveysystem.com/sscalc.htm>

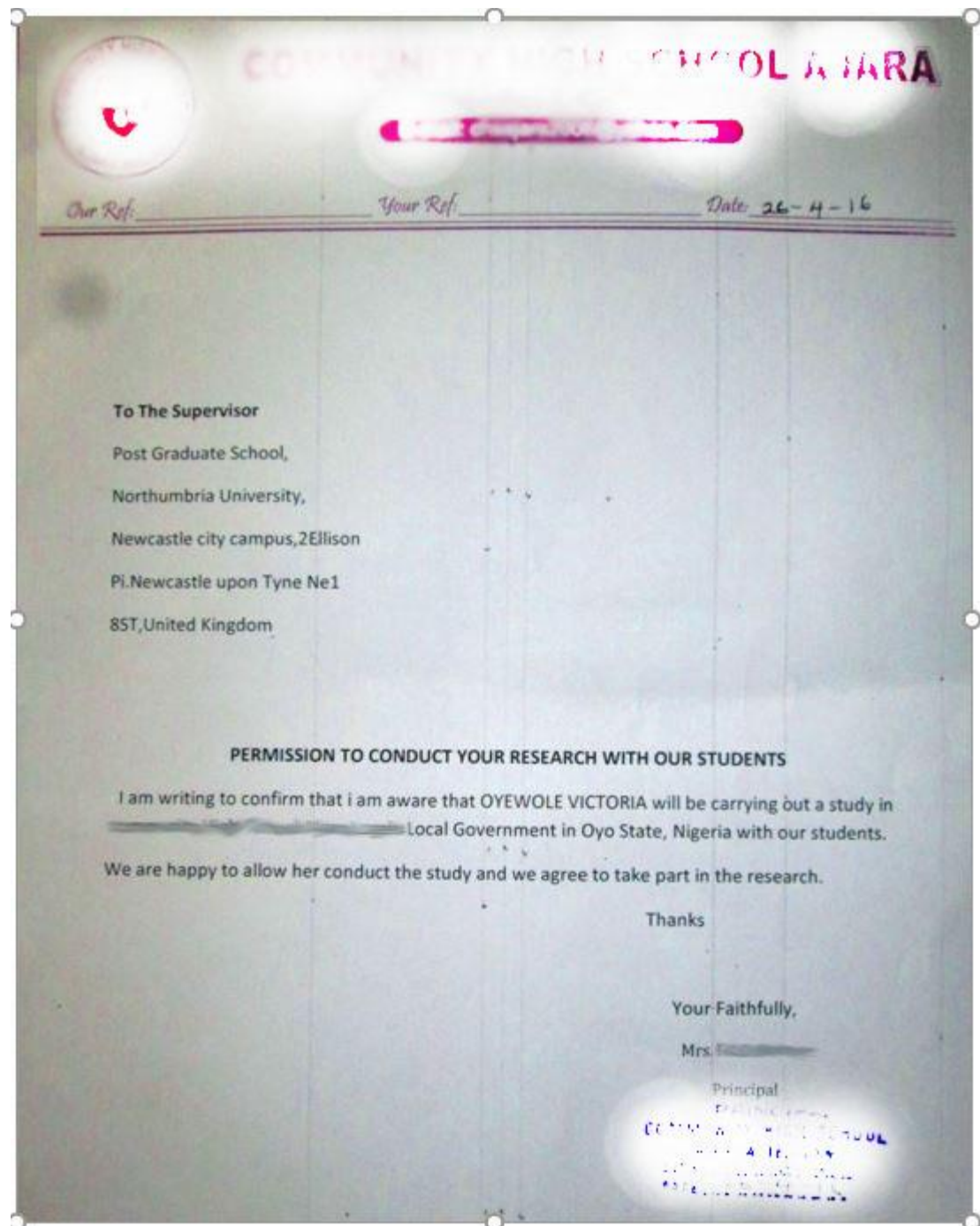
Assuming;

- 95% Confidence Level.
- Confidence Interval of 10.
- Total population size of 303,100

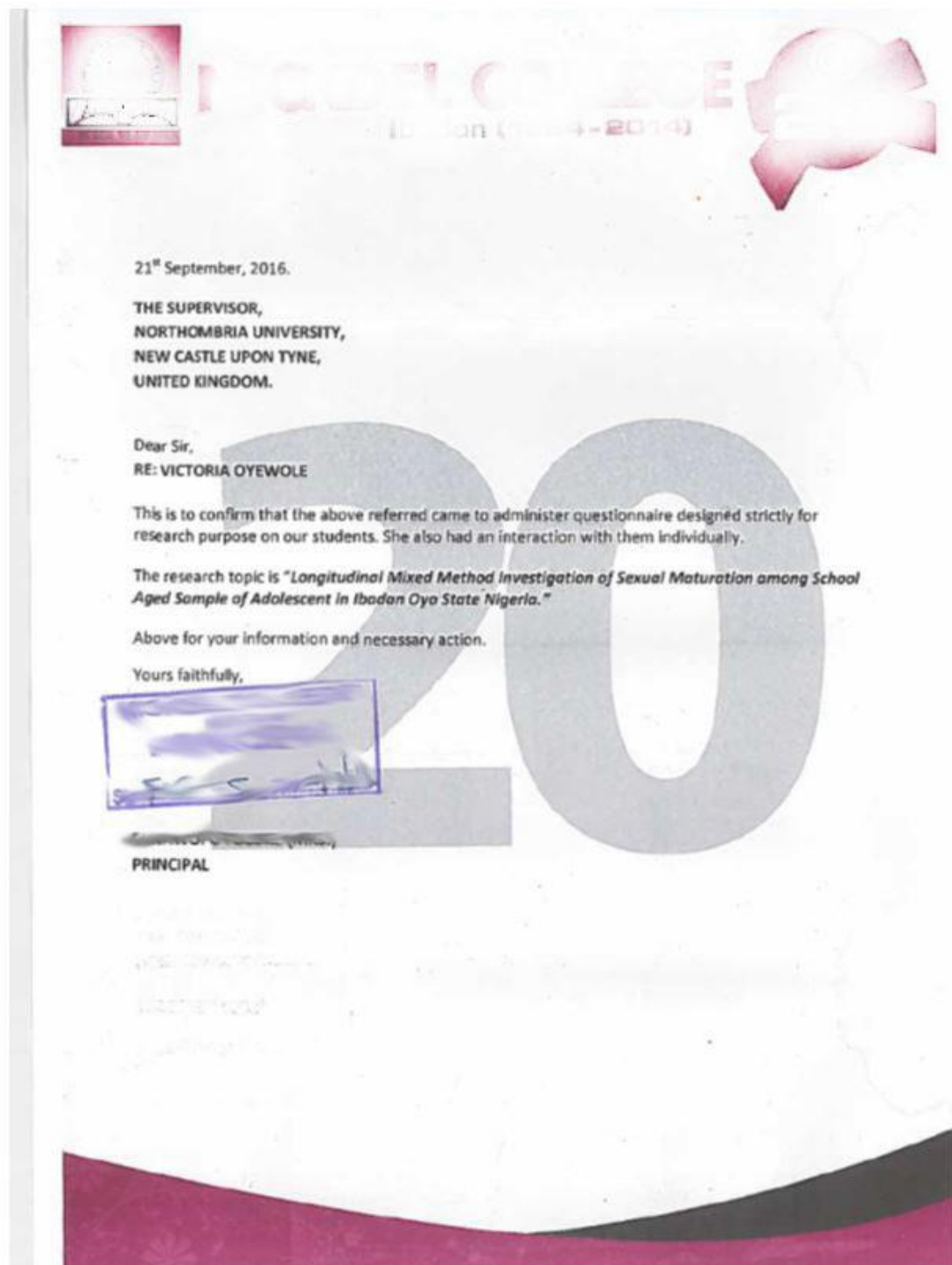
Sample size needed = 96

+ 25% margin to allow for attrition = 120.

Appendix 2a: A scanned copy of letter of permission IN PRINCIPLE from one of the selected sites of study.



Appendix 2b: A scanned copy of letter of permission IN PRINCIPLE from the second selected sites of study.



Appendix 3: Letter seeking permission from the organizations (schools).



FACULTY OF HEALTH & LIFE SCIENCES

Dear Sir/Ma,

REQUEST TO RECRUIT PARTICIPANTS FOR A RESEARCH FROM YOUR ORGANIZATION.

I am Victoria Oyewole a student of Northumbria University. I am doing my research program in Public Health and Wellbeing and presently am carrying out a research on a topic **“A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.”** The research focuses on evaluating the views of adolescent on sexual health and factors influencing this. I have attached a short protocol of this work for your further consideration. In short, I wish to request permission to carry out a survey (two times – initial and follow-up) and face-to-face interviews with those who agree to this more personal form of data collection.

This work has received a favourable opinion from Northumbria University, Faculty of Health and Life Sciences Research Ethics Committee.

I therefore request that I be given permission to recruit participants from your school based on the knowledge that you are the head of the school. If you agree, I would need to be allowed to contact the parents / guardians in order to give them information about the study and collect their formal agreement for their child to participate. I have attached the research information sheet that I will send to these parents if granted permission. The best intention of this work is to help inform adolescents' sexual health promotion programmes in Nigeria.

Thanks in anticipation of your consideration of this matter.

Yours Faithfully

.....

Victoria Oyewole

Appendix 4. Letter two seeking permission from the organizations (schools).



FACULTY OF HEALTH & LIFE SCIENCES

PARENTAL/GUARDIAN LETTER OF PERMISSION FOR MINORS

Dear Sir/Ma,

REQUEST TO ALLOW YOUR CHILDREN PARTICIPATE IN A RESEARCH STUDY

I am Victoria Oyewole a student of Northumbria University. I am doing my research program in Public Health and Wellbeing and presently am carrying out a research on a topic **“A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.”** The research will involve asking young people – such as your son / daughter and their class mates to talk about what they know about sex and who or what has influenced their views. If you agree to your son / daughter taking part, I would intend to carry out a confidential survey on two occasions. Also, if your son / daughter agreed to take part, I would ask them whether they were willing to be interviewed (in complete confidence). These interviews would be recorded for the purpose of analysis – but all details would be made anonymous so nobody would be able to see who has said what. The survey will take about 15 minutes on each occasion, while the interview will take up to one hour. All of these activities would take place in the school which your son / daughter attends and during normal school hours.

In order to make this request, I have had to apply Northumbria University, Faculty of Health and Life Sciences Research Ethics Committee and they have agreed that the research is safe and ethical. Also, I have had to get approval from the school head where your child attends. The reason I am doing this work is to help inform how young people are educated about sex and sexual health in Nigeria.

I would be very grateful if you could think about this study, and having thought, would ask you to consider giving me permission to approach your son/daughter and invite him / her to take part. I can reassure you that the research is not in any way meant to exploit or misinform your child, but help us develop better methods of informing young people about these things. If you would not be happy with your son / daughter taking part, then that is fine and your choice would be respected with no detriment to you or your child. You can also agree to your child taking part, and if you or he/she has a change of mind, then you / him / her would be free to drop out of the study at any point, again without detriment: there will be no penalty of any kind. If your child participates, the results of the research study may be published, but your child's name will not be used. I will take all precautions to maintain your child's confidentiality. I have attached consent forms to this letter, to be signed if you agree for your child to participate.

If you require more information before deciding about whether or not to allow me to ask your son / daughter to take part in the study, then my research supervisor Dr Michael Hill will answer any outstanding questions you may have. You can get in touch with him either by email: michael.hill@northumbria.ac.uk or telephone 0044-191-2156623.

Thank-you for taking the time to read and consider this request.

Yours Faithfully

.....

Victoria Oyewole

Please complete either section [1] or [2] of the form below and ask your child to return this to their class teacher.

✂ -----

[1] I agree to give you permission to ask my child _____ to take part in the research study described above.

Name: _____

Relationship:

Signature: _____

Date:

[2] I **DO NOT** agree to my child _____ taking part in the research study described above.

Name: _____

Relationship:

Signature: _____

Date:

Appendix 5. A generic informed consent form (For Survey Phase).



Version 1.0

A GENERIC INFORMED CONSENT FORM (For Survey Phase)

Project Title: **A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.**

Principal Investigator: **Victoria Oyewole**

*please tick or initial
where applicable*

I have carefully read and understood the Participant Information Sheet.

☐

I have had an opportunity to ask questions and discuss this study and I have received satisfactory answers.

☐

I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing, and without prejudice.

☐

I agree to take part in this study.

☐

Signature of participant..... Date.....

(NAME IN BLOCK LETTERS).....

Signature of researcher..... Date.....

(NAME IN BLOCK LETTERS).....

Appendix 6. Informed consent form (For Interview Phase).

Version 1.0



FACULTY OF HEALTH & LIFE SCIENCES

INFORMED CONSENT FORM (For Interview Phase)

Project Title: **A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.**

Principal Investigator: **Victoria Oyewole**

*please tick or initial
where applicable*

I have carefully read and understood the Participant Information Sheet.

☐

I have had the chance to ask questions and talk about this study and I am satisfied with the answers that have been given.

☐

I know that I am able to drop out of this study at any time, and don't have to give a reason if I decide to drop out.

☐

I understand that I will not be penalized or treated differently if I decide to drop out of this study.

☐

I agree to take part in this study.

☐

I agree to the interview being tape recorded

☐

I understand that by taking part in this study I may be asked questions that might cause me some embarrassment or even upset and that these things might occur even after the study has ended. I accept this small risk of embarrassment or upset as part of this study.

☐

Signature of participant..... Date.....

(NAME IN BLOCK LETTERS).....

Signature of Parent / Guardian in the case of a minor

.....

Signature of researcher..... Date.....

(NAME IN BLOCK LETTERS).....

Appendix 7. Participant debrief.



Participant code:

PARTICIPANT DEBRIEF

Name of Researcher: Victoria Anuoluwapo Oyewole

Name of Supervisor: Dr Michael Hill

Project Title: A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.

What was the purpose of the project?

The purpose of the study is to investigate young people's knowledge, ideas and experiences concerning sex and relationships. Also, to examine how young people are educated about sex and sexual health in Nigeria.

How will I find out about the results?

Once the study has been completed and the data are analyzed approximately 16 weeks after taking part, the researcher will email/post you a general summary of the results if you wish to have it. (Or the results might be sent to the school library where you can access it).

If I change my mind and wish to withdraw the information I have provided, how do I do this?

If you wish to withdraw your data, then email or call the investigator named in the information sheet within 1 month of taking part and given them the code number that was allocated to you (this can be found on your debrief sheet). After this time it might not be possible to withdraw your data as it could already have been analyzed.

The data collected in this study may also be published in scientific journals or presented at conferences. Information and data gathered during this research study will only be available to the research team identified in the information sheet. Should the research be presented or published in any form, all data will be anonymous (i.e. Your personal information or data will not be identified).

All information and data gathered during this research will be stored in line with the Data Protection Act and will be destroyed 60 months following the conclusion of the study. If the research is published in a scientific journal it may be kept for longer before being destroyed. During that time the data may be used by members of the research team only for purposes appropriate to the research question, but at no point will your personal information or data be revealed. Insurance companies and employers will not be given any individual's personal information, nor any data provided by them, and nor will we allow access to the police, security services, social services, relatives or lawyers, unless forced to do so by the courts.

If you wish to receive feedback about the findings of this research study, then please contact the researcher at anuoluwapo.oyewole@northumbria.ac.uk. This study and its protocol have received full ethical approval from Faculty of Health and Life Sciences Research Ethics Committee. If you require confirmation of this, or if you have any concerns or worries concerning this research, or if you wish to register a complaint, please contact the Chair of this Committee (Dr Nick Neave: nick.neave@northumbria.ac.uk), stating the title of the research project and the name of the researcher.

Appendix 8. Participant Information Sheet.



Faculty of Health & Life Sciences

Study Title: A longitudinal mixed method investigation of sexual development amongst a school aged sample of adolescents in Ibadan, Oyo State, Nigeria.

Participant Information Sheet

You are being invited to take part in this research study. Before you decide it is important for you to read this leaflet so you understand why the study is being carried out and what it will involve.

Reading this leaflet, discussing it with others or asking any questions you might have will help you decide whether or not you would like to take part.

What is the Purpose of the Study

The aim of the study is to investigate young people's knowledge, ideas and experiences concerning sex and relationships using both questionnaire and conducting a face to face interviews. The reason why I am doing this work is to help inform how young people are educated about sex and sexual health in Nigeria. Also, I am conducting this study as part of my research work in public health and wellbeing at Northumbria University.

Why have I been invited?

It is important that we assess as many people as possible and you have indicated that you are interested in taking part in this study, and that you are either a male or female adolescent between the ages of 12-16years. The researcher has chosen to ask you because you fall within this age group of young people that can give information to inform this research

Do I have to take part?

No. It is up to you whether you would like to take part in the study. I am giving you this information sheet to help you make that decision. If you do decide to take part, remember that you can stop being involved in the study whenever you choose, without telling me why. You are completely free to decide whether or not to take part, or to take part and then leave the study before completion. You are welcome to take part in the questionnaire (survey) and choose not to take part in the interview. Deciding not to take part, or leaving the study, will not affect you in anyway.

What will happen if I take part?

After signing a consent form, the investigator will come to your school at a time when you would normally be there. If you agree, she will give you a survey questionnaire to complete and also interview you by her in a private area. You are not expected to write your name on the questionnaire or mention your name during the interview. The Investigator will ask you to complete a confidential survey on two occasions, now, and the same survey about 6 months later. During the survey you will be asked to tick boxes in order to answer questions – and you can choose to answer some but not all of the questions. At the end of the survey, you will be asked to tick a box to say whether or not you would be willing to be interviewed. You can decide to take part in the survey but not be interviewed – your written answers would still be important to me.

With your permission, these interviews would be recorded so that I can make sense of what has been said to make sure I remember everything you talk about – but all details would be made anonymous so nobody would be able to see who has said what. You can say as much or as little as you like during the interview. If you agree to take part in the interview, you may be asked to share your ‘life experience’. If you agree to share your life experience during the interview but later change your mind, then you can leave at any time during the interview. You may change your mind after the interview has finished – and in this case, we would not use what you have said as part of our study. Once again, this decision will have no effect on your grades or relationship with your teachers. After they have written an analysis of what was said, the researchers will bring this back to you. If you do not agree with what has been written by the researchers, then we will say this clearly in the final report. There is no risk of any loss of privacy because no names will be associated with any of the data that we use in this research. The survey will take about 15 minutes on each occasion, while the interview will take up to one hour. All of these activities would take place in school and during normal school hours. After you have completed the study the investigator will give you a debrief sheet explaining the nature of the research, how you can find out about the results, and how you can withdraw your data if you wish. It is estimated that the total time to complete this study will be about 1 hour: 30minutes, if you are taking part in both survey and interview.

What are the possible disadvantages of taking part?

I have carefully thought about such issues and a risk assessment has been examined as regards this. All data will be collected on school premises. The participants who consent to take part in the survey phase of the research will be asked to complete the survey instrument in a school hall or similar with desks arranged to ensure privacy of the responses. It is anticipated that, ideally, the venue will be accessible, familiar thus avoiding stress, and comfortable / free from distraction. On completion of the survey, participants will be asked to post the completed document into a ballot-style box at the front of the venue. This is to mitigate against the principle risk of breach of confidentiality and / or anonymity and any possible sequential consequences.

Face-to-face interviews will take place in a private room within the school during normal school hours. Data will be recorded on a password-protected data recording device, and these data files will be transferred to the secure server (U drive) at Northumbria University at the earliest possible convenience. The principle risks entailed in this phase of the research include [1] the risk of the young person becoming distressed during the course of the interview and [2] disclosure of events in which the young person has been harmed or an offence has been committed. In relation to risk [1] if a young person becomes distressed, the researcher will attempt to alleviate the immediate distress. The young person will then be asked as to whether they want to make use of support mechanisms available at the school e.g. teachers / mentors / counsellor, or whether they would prefer to contact an external agency (the researcher will provide contact details of advocacy and support organisations such as ‘Advocacy for Youth’ <http://www.advocatesforyouth.org/about-us/mission> or the ‘Association for Family and Reproductive Health’ <http://arfh-ng.org/> or local church / clergy arrangements). In all cases a short debriefing period will be incorporated into the end of each interview. Participants will, of course, be free will to withdraw, from the interviews at any point, without having to give any reason and without any form of penalty. In such circumstances their data will be excluded from the analysis.

What are the possible benefits of taking part?

By taking part in the study you will help inform the research, it will create awareness and inform you on the sexual risk behaviours that young people involve in and also to help inform on how young people are educated about sex and sexual health in Nigeria. Not only that, you will be given a jotter and a pen for participating.

Will my taking part in this study be kept confidential and anonymous?

How will my data be stored?

Yes. Your name will not be written on any of the data we collect; the written information you provide will have an ID number, not your name. Your name will not be written on the recorded interviews, or on the typed up versions of your discussions from the interview, and your name will not appear in any reports or documents resulting from this study. The consent form you have signed will be stored separately from your other data. The data collected from you in this study will be confidential. The only exception to this confidentiality is if the researcher feels that you or others may be harmed if information is

How will my data be stored?

All paper data, including the questionnaires, the typed up transcripts from your interview and your consent forms will be kept in locked storage. All electronic data; including the recordings from your interview, will be stored on the University U drive, which is password protected. All data will be stored in accordance with University guidelines and the Data Protection Act (1998).

What will happen to the results of the study?

The general findings might be reported in a scientific journal or presented at a research conference, however the data will be anonymized and you or the data you have provided will not be personally identifiable, unless we have asked for your specific consent for this beforehand. The findings may also be shared with other organizations/institutions that have been involved with the study. We can provide you with a summary of the findings from the study if you email the researcher at the address listed below.

Who is Organizing and Funding the Study?

Northumbria University.

Before this study could begin, permissions were obtained from Northumbria University. The Faculty of Health and Life Sciences Research Ethics Committee at Northumbria University have reviewed the study in order to safeguard your interests, and have granted

Contact for further information:

E.g. Researcher's email: anuoluwapo.oyewole@northumbria.ac.uk

E.g. Supervisor email: michael.hill@northumbria.ac.uk

Appendix 9a. Survey instrument and in-depth interview guide.

SURVEY: YOUNG PEOPLE IN NIGERIA AND THEIR THOUGHTS ABOUT SEX AND RELATIONSHIPS

Dear student,

I would appreciate your time to complete the following survey about your views on sexual relationships.

This research is being carried out as part of a Research Degree course at Northumbria University, Newcastle, UK.

The aim of the study is to investigate young peoples knowledge, ideas and experiences concerning sex and relationships.

You will notice that there is a code number on this survey. Only the researcher (Victoria Oyewole) will be able to match your name to this number. This is necessary for further information collection, and to allow me to make sense of the results. Otherwise, all of the information that you provide will be normally be treated with strict confidentiality – and this won't be shared with others such as parents, teachers or friends. The only time that I may have to share this information with others is in a case where an answer reveals that you or others are being forced to do things against their will or are being harmed.

A report will be produced from the findings and these findings will be shared with you after the research study has ended.

The questionnaire should take about 20-30 minutes to complete and most answers require a tick to be placed in the relevant box.

Once again, I would like to thank you in advance for taking part in this study.

It is not compulsory that you complete this survey and if don't wish to take part, then that is fine. If you complete this survey, then I will ask you to complete the same survey about 6 months later. Once again, you are free to choose whether you wish to complete this or not.

Victoria Oyewole (Research student, Northumbria, University, Newcastle, UK.)

INSTRUCTIONS

1. Please tick boxes like this
2. Please write in boxes provided when asked to do so.
3. Please ignore any questions that you would rather not answer. Any questions that you do answer are still valuable.
4. If any mistakes are made, please cross them out and continue as before.

Section A: Information about You and your family

1. Are you: Male

☐

Female

☐

2. How old are you now? Years.

3. What Class are you in?

JSS2

☐

JSS 3

☐

SS1

☐

SS2

☐

SS3

☐

4. What religion do you practice?

Christianity

☐

Islam

☐

Traditional

☐

None

☐

5. Where do you live?

Town

☐

Village

☐

6. What tribe are you from?

Yoruba

☐

Hausa

☐

Igbos

☐

Other

7. With whom are you living with?

Both parents ☐

Relatives ☐

My mother ☐

My father ☐

Friends ☐

Alone ☐

Others Specify.....

8. What is your father's level of education?

No formal education ☐

Primary ☐

Secondary education ☐

Grade 11/ technical ☐

Tertiary education ☐

Don't know. ☐

9. What is your mother's level of education?

No formal education ☐

Primary ☐

Secondary education ☐

Grade 11/ technical ☐

Tertiary education ☐

Don't know. ☐

10. What is/was your father's occupation? -----

11. What is/was your mother's occupation? -----

10. What is/was your father's occupation?

Civil servant ☐ Trader ☐ Artisan ☐ Farming ☐ Professional ☐

11. What is/was your Mother's occupation?

Civil servant ☐ Trader ☐ Artisan ☐ Farming ☐ Professional ☐

Section B: About socioeconomic and family characteristics (Please circle or tick the correct answer where appropriate)

12. Have you ever worked for money? Yes ☐ No ☐

Go to question 18 if No

13. How old were you when you started working for money?

Age in years

14. Are you presently working for money? Yes ☐ No ☐

15. About how many hours a week do you work? Hours

16. What type of work do (did) you do?

Hawking of pure water/groundnut/walnut/ ☐ Staying in my mother's/ father's shops ☐

Farming/Labourer for people ☐ Learning a trade ☐ Household work for people ☐

Ride Okada ☐ Conduct for drivers ☐ Car/Okada wash ☐

16. What type of work do (did) you do?

Hawking of pure water/groundnut/walnut/ ☐ Staying in my mother's/ father's shops ☐

Farming/Labourer for people ☐ Learning a trade ☐ Household work for people ☐

Ride Okada ☐ Conduct for drivers ☐ Car/Okada wash ☐

17. How much do (did) you earn in a week? Weekly wage

18. Are you looking for work? Yes ☐ No ☐

19. How often do you attend religious services?

Every day ☐ At least once a week ☐ At least once a month ☐

At least one a year ☐ Less than once a year ☐ Never ☐

20. How important is religion in your life?

Very important ☐ Somewhat important ☐ Neutral ☐

Less important ☐ Not at all ☐

21. Now I have some questions about your family.

Is your father alive? Yes ☐ No ☐

Go to question 24 if No

22. Do you find it difficult or easy to talk with your Father about things that are important to you?

Very easy	<input type="checkbox"/>	Easy	<input type="checkbox"/>	Average	<input type="checkbox"/>
Difficult	<input type="checkbox"/>	Very difficult	<input type="checkbox"/>	Do not see him	<input type="checkbox"/>

23. Have you ever discussed sex-related matters with your father? If YES Often or occasionally?

Very often	<input type="checkbox"/>	Often	<input type="checkbox"/>	Occasionally	<input type="checkbox"/>
Rarely	<input type="checkbox"/>	Never	<input type="checkbox"/>		

24. Is your Mother alive? Yes ☐ No ☐

Go to question 27 if No

25. Do you find it difficult or easy to talk with your Mother about things that are important to you?

Very easy	<input type="checkbox"/>	Easy	<input type="checkbox"/>	Average	<input type="checkbox"/>
Difficult	<input type="checkbox"/>	Very difficult	<input type="checkbox"/>	Do not see him	<input type="checkbox"/>

26. Have you ever discussed sex-related matters with your Mother? If YES Often or occasionally?

Very often ☐ Often ☐ Occasionally ☐
Rarely ☐ Never ☐

27. Do you have any older brother(s)? Yes ☐ No ☐

Go to question 29 if No

28. Do you live in the same house with your brother(s)? Yes ☐ No ☐

29. Do you have any older sisters(s)? Yes ☐ No ☐

Go to question 31 if No

30. Do you live in the same house with your sisters? Yes ☐ No ☐

31. Young people learn about puberty and sexual and reproductive systems of men and women – I mean the ways in which boys' and girls' bodies change during the teenage years and where eggs and sperm are made and how pregnancy occurs – What has been the most important source of information for you on this topic?

School /Teacher ☐ Mother ☐ Father ☐ Brother ☐ Sister ☐

Other family members ☐ Friends ☐ Doctors ☐ Books/magazines ☐

Films/Videos ☐ Other (Specify.....)

32. What is your most preferred source of information?

School /Teacher ☐ Mother ☐ Father ☐ Brother ☐ Sister ☐

Other family members ☐ Friends ☐ Doctors ☐ Books/magazines ☐

Films/Videos ☐ Other (Specify.....)

33. Now there is another similar question about sources of information on relationships – I mean how boys should treat girls and vice versa. What has been the most important source of information on this topic?

School/Teacher ☐ Mother ☐ Father ☐ Brother ☐ Sister ☐

Other family members ☐ Friends ☐ Doctors ☐ Books/magazines ☐

Films/videos ☐ Other (Specify.....)

34. What is your most preferred source of information?

School /Teacher ☐ Mother ☐ Father ☐ Brother ☐ Sister ☐

Other family members ☐ Friends ☐ Doctors ☐ Books/magazines ☐

Films/Videos ☐ Other (Specify.....)

35. Some schools have classes on puberty, on sexual and reproductive systems and on relationships between boys and girls. Did you ever attend school classes on any of these topics?

Yes ☐ No ☐ Not sure ☐

36. Do you think that there should be (more) classes on these topics, fewer classes or were the number about right?

More ☐ Less ☐ About right ☐

37. Now I have some other questions on sex and reproduction.

A woman can get pregnant on the very first time that she has sexual intercourse.

True

☐

False

☐

Don't know/Not sure

☐

38. A woman stops growing after she has had sexual intercourse for the first time.

True

☐

False

☐

Don't know/Not sure

☐

39. A woman is most likely to get pregnant if she has sexual intercourse half way between her menstrual periods

True

☐

False

☐

Don't know/Not sure

☐

40. I find girls sexually attractive (boys)

Yes

☐

No

☐

I find boys sexually attractive (girls)

41. Have you ever had a girlfriend(s)? (Boys)

Yes

☐

No

☐

Have you ever had a boyfriend(s)? (Girls)

Go to question 43 if No

42. How many girlfriends have you had? (boys)

How many boyfriends have you had? (Girls).....

43. Have you had sex before?

Yes

☐

No

☐

Go to question 61 if No

44. What or who encouraged or influence you to have Sex?

Peers/friends

☐

Media/television/video

☐

Parents

☐

Teacher/school

☐

Books/Magazine

☐

Brother/Sister

☐

Boyfriend/Girlfriend

☐

Others, please specify-----

45. How old were you at the time you first had sex ? Age

46. When last did you have sexual intercourse?

Today Yesterday Last week
Last month Longer ago

47. Did you take action to prevent disease or pregnancy during your first attempt?

Yes No

48. What method did you use?

Condom Pill Injection Withdrawal
Safe period Other, please, specify.....

49. Apart from the first time, did you and your partner(s) ever use a method to avoid pregnancy? IF YES Always or sometimes?

Always Sometimes Never

50. Whose decision was it to use a method always/sometimes/never?

My decision Partner's decision Joint decision

51. What method did you or your partner mostly use?

Condom Pill Injection Withdrawal
Safe period Other.....

52. Where did you or your partner get this method?

Shop ☐

Pharmacy ☐

Govt. Clinic/Health ☐

Centre/Hospital ☐

Private Doctor/Nurse/Clinic ☐

Friend ☐

Other, please specify..... ☐

Don't know ☐

53. How easy is it to obtain prevention method?

Always ☐

Sometimes ☐

Every once in a while ☐

Rarely ☐

Never ☐

54. Ever since you started having sex, how many people have you had sex with?

Number -----

55. How would you describe your first sexual encounter?

You forced her to have intercourse against her wish. (boys) ☐

He forced me to have sex against my wish. (girls) ☐

You begged her to have sex with you. ☐

She forced you to have sex with her. ☐

She begged you to have sex with her. ☐

We were both willing. ☐

56. BOYS: have you ever impregnated a girl /girlfriend before? GIRLS : Did you ever become pregnant by your boyfriend?

Yes

☐

No

☐☐

57. What happened to the pregnancy?

Currently pregnant

☐

Abortion

☐

Miscarriage

☐

Live-birth

☐

No sure

☐

58. Were you ever concerned that you might contract HIV or any another sexually transmitted infections from your boyfriend or from your sexual partner?

Very concerned

☐

Somewhat concerned

☐

Not concerned

☐

Go to question 60 if not concerned

59. What did/do you do to prevent it?

Use condoms

☐

Take medicines

☐

Other (.....)

60. Some people pay money or gift in exchange for sexual intercourse. Has this ever happened to you before?

Yes

☐

No

☐

People may have mixed reasons for not having sex. Please tell me for each reason, whether it applies to you or not.

61. I don't feel ready to have sex.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

62. I have not had the opportunity.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

63. I think that sex before marriage is wrong.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

64. I am afraid of getting pregnant

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

65. I am afraid of getting HIV/AIDS or another sexually transmitted infection

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

66. Do you feel any pressure from others to have sexual intercourse?

Yes

☐

No

☐

If no go to question 69

67. If yes, is the pressure much or little?

Much

☐

Little

☐

68. From whom do you feel the pressure?

Friends

☐

Relative

☐

Fellow student

☐

Boy/girl friend

☐

Other specify-----

Section D: Sexuality, gender and norms (young people have various views about relationships, these are some of the views, please tell me whether you agree or disagree)

69. I believe it's all right for unmarried boys and girls to have dates.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

70. I believe it's all right for boys and girls to kiss, hug and touch each other.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

71. I believe there is nothing wrong with unmarried boys and girls having sexual intercourse if they love each other.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

72. I think that sometimes a boy has to force a girl to have sex if he loves her.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

73. A boy will not respect a girl who agrees to have sex with him.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

74. Most girls/boys who have sex before marriage, regret it afterwards.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

75. A boy and a girl should have sex before they become engaged to see whether they are suited to each other.

Strongly agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>	Undecided	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>		

76. I believe that girls/boys should remain virgins until they marry.

Strongly agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>	Undecided	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>		

77. It's all right for boys and girls to have sex with each other provided that they use methods to stop pregnancy?

Strongly agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>	Undecided	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>		

78. I am confident that I can insist on condom use every time I have sex.

Strongly agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>	Undecided	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>		

79. I would never contemplate having an abortion my self or for my girl friend/boy friend

Strongly agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>	Undecided	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>		

80. It is mainly the girl's responsibility to ensure that contraception is used regularly

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

81. I think that you should be in love with someone before having sex with them.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

82. I feel that I know how to use a condom properly.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

83. I would refuse to have sex with someone who is not prepared to use a condom.

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

84. I enjoy having sex?

Strongly agree

☐

Agree

☐

Undecided

☐

Disagree

☐

Strongly Disagree

☐

Would you be willing to talk confidentially with the researcher (Victoria Oyewole) about sex and relationship?

Yes

☐

No

☐

Many thanks for taking the time to complete this survey

Appendix 9b. Qualitative research (face to face indepth-interview).

PART B: QUALITATIVE RESEARCH (FACE TO FACE INDEPTH -INTERVIEW QUESTIONS)

Topic Focus	Core questions	Additional questions or prompts	Suggested expansion materials
Main sources of information Most frequently used and most important sources	How have you found out about relationships, sex and contraception? How knowledgeable do you feel about sexual matters? Whom or what do you rely on for information? Whom or what are the most important sources to you? How important to you is each source? <i>sources: individuals and/or media</i>	<i>Bodily changes, periods, the biology of sex/reproduction, pregnancy, relationships, love, marriage, when to have sex, how to do it, contraception, STIs, HIV etc.</i> Can you remember what you were told/what you found out? How old were you? How did you feel / act? What did you think about it?	Key players Most influential sources
Parents, family and community members	Did your parents (elders) ever tell you about sex or discussed any matters related to sex with you? Why do you think your parents (elders) have never spoken to you? What about other members of your family or community? Brothers/sisters, grandparents, aunts and uncles etc. Would you have liked your parents (elders) /other family and community members to be more open? About what issues? In what ways? How important are parents (elders)/ other members of your family/ community as sources of information.	Who initiated the discussion? How was it approached? What did you discuss? Topics / ages? Who was involved in the discussion? Can you remember much about what was said? Did you already know about it? How did you feel at the time? How did you react? How did they feel? How did they react? How does your experience compare with your friends?	
School sex education - quantity and quality	Have relationships, sex and/or contraception ever been spoken about at school? What information has been given out at school? What issues/topics have been spoken about?	Who taught it? Did others from out of school come and talk to you? When was it taught? Was this the right time for you / others? How was it taught? What teaching methods were used? Single sex / small group discussions / videos / drama etc. What was it like? How did you feel about it? Did you feel you could ask questions?	

		<p>Was the information appropriate / relevant to you? Did you learn anything new?</p> <p>Was the information you were given adequate?</p> <p>Were the classes taken seriously? By whom?</p> <p>What were your overall impressions?</p> <p>Could it have been better / improved upon? How? Why?</p>	
	For those who have not received any sex education in schools	<p>Do you feel you would have liked to have received information at school? Why?</p> <p>Do you think school should teach about such issues? Why?</p> <p>What issues would you have liked to have been dealt with at school? What information would you have liked?</p> <p>When should they be taught? At what age?</p> <p>How should the issues be approached? Which teaching methods do you think should be used? Who should take the classes?</p> <p>Single sex / small group discussions / videos / outside speakers / drama etc.</p>	
The role of friends	<p>When finding out about relationships, sex and contraception what role have your friends played?</p> <p>How important are friends as a source of information?</p> <p>What issues do you talk about?</p>	<p>Do you talk about all issues with all of your friends? Which friends? Male and female friends? Older and younger friends?</p> <p>How do you talk about it? Seriously / as a joke / one to one / in groups / showing off (context) etc. Does this vary depending on which friends you are talking with?</p> <p>How do you feel about the information you have received from your friends?</p> <p>How much do you value the information you receive from your friends? How accurate is the information?</p>	<p>Friends as sources of information</p> <p>Values and attitudes developed from friends</p>

Role of the media	<p>What role has the media played in informing you about relationships, sex and contraception?</p> <p><i>Radio, magazines, books, MTV, TV images / programmes, advertising, phone lines etc.</i></p>	<p>What messages are given out through media sources?</p> <p>How are men and women portrayed?</p> <p>How do you feel about the messages given out? Why?</p> <p>Have the media messages influenced you in any way? Your opinion or behavior? How? Why?</p> <p>How do their messages relate to you? Do you feel the messages are directly relevant to you? How? Why?</p> <p>How important is the media as a source of information? What do you feel are the most important or influential media sources? Why?</p>	<p>Strength of media messages</p> <p>Changing role of the media</p> <p>Suitability of materials for those who are literate/illiterate</p> <p>Images of gender</p>
Other sources of information	<p>Are there any other people/places that you have found useful in finding out about relationships, sex and contraception?</p> <p>Are there other people/places available to you for advice and support?</p>	<p>Who or where would you go if you have a specific question or problem? Why?</p> <p>Where or who wouldn't you go to?</p>	
Gaps in knowledge	<p>Do you feel that the information you have received has been adequate?</p> <p>Are there any gaps or anything you would like to find out more about?</p>	<p>What issues do you feel you lack knowledge of?</p> <p>Who or from where would you like to learn more about these issues?</p>	

Protective practices	<p>Which forms of protection against pregnancy and STIs have you used?</p> <p>(Context) What, why, when and how was its use or non-use decided?</p> <p>With what proportion of partners have you always / sometimes / never used condoms?</p>	<p>In what proportion of episodes of sex have you used condoms and / or some other form of contraception?</p> <p>Have you used condoms throughout the years? Why? Why not? How do you decide when and when not to use them? Under what circumstances do you/ would you not use contraception? Why? Reasons for engaging in unprotected sex</p> <p>When and how is it decided that contraception will be used? What negotiation occurs? Do you feel you are able to negotiate the use of contraception? Is it easy, difficult? Why?</p> <p>From where do/did you obtain your protection? Whose responsibility is protection? Are there any barriers to obtaining contraception? What? How are they overcome?</p>	<p>Explore risk reduction strategies in detail</p> <p>Feelings about, and knowledge of, various types of contraception</p>
Sexual risk taking	<p>To what extent do you think about any risks involved with sex?</p> <p>What action do you take in relation to these risks?</p> <p>Are you fearful of pregnancy?</p> <p>Are you fearful of HIV?</p> <p>Are you fearful of other STIs?</p>	<p>Do you consider yourself to be at risk? Why? Why not?</p> <p>Have you ever been pregnant? Have you ever made a partner pregnant? What happened? What did you do? How did you feel? How did other people react? Has it changed your behaviour?</p> <p>How would you feel if you found out you were pregnant / had made someone pregnant? What would you do? Why?</p> <p>Have you had a STI or symptom? Have any of your partners had a STI or symptom? What happened? What did you do? How did you feel? Has it changed your behavior?</p> <p>Have you ever had an HIV test? Have any of your partners had an HIV test? Why? Why not?</p> <p>Have you ever asked a partner to have a test? Why? Why not?</p>	<p>Explore risk perception and justification in details</p> <p>Knowledge of HIV and AIDS</p> <p>Explore circumstances under which a test would be taken</p>
	<p>Have you ever paid someone for sex?</p> <p>Have you ever been paid for sex?</p>	<p>Do you always have paid sex with the same person? Why? Why not?</p> <p>How many paying partners have you had sex with?</p> <p>Do you use protection during these encounters? Why? Why not?</p>	<p>Describe situations</p> <p>Explore meanings</p>

Sexual pressure/coercion	<p>Have you ever pressured anyone into sexual interaction?</p> <p>Have you ever been pressured by anyone into sexual interaction?</p>	<p>Have you or anyone you know experienced sexual pressure, force, rape? Who by? What happened? (Context)</p> <p>How do you feel about it?</p> <p>What influence did this have on you?</p>	<p>Beliefs about appropriate sexual pressure</p> <p>Nature of sexual consent</p>
Awareness of services	<p>Can you list for me all the places and people you know of which young people like yourself are able to visit and talk to, to find out about relationships, sex, contraception, STIs etc?</p>	<p><i>Health centres, young clubs and organizations etc</i></p> <p>How have you found out about the services? Family, friends, school etc.</p> <p>Did school ever teach you about the local services?</p>	
Personal usage	<p>Have you ever been to any services for help and advice about relationships, contraception, STIs, sex etc?</p>	<p><i>If have been</i></p> <p>How many times have you been? (to each one)</p> <p>What for?</p> <p><i>If haven't been</i></p> <p>Is there any reason(s) why you haven't been along?</p> <p>Would you consider going to any of the services? Why/why not?</p> <p>Has anyone you know been to any services? Do you know about their experiences? Can you describe them?</p>	
Personal experience of the second, third, fourth etc. services visited	<p>Can you tell me about your experiences of the second service you visited? (Venue B)</p> <p>Did you visit venue B on more than one occasion? If not, why not?</p> <p>What have your subsequent experiences of venue B been like?</p> <p>What was your last visit to venue B like?</p> <p>When did you last visit venue B?</p> <p><i>Repeat for all services attended</i></p>	<p>How do you find out about venue B?</p> <p>How did your first visit to venue B go? How were you treated? How did you feel? What did you go for? Did you get what you wanted? Were you satisfied with the visit?</p> <p>Who knew you had been? Who accompanied you?</p> <p>What prompted you to visit venue B?</p> <p>How did you find out about venue B?</p> <p>Have you visited venue B on more than one occasion? How have you found your subsequent visits? What have obtained on subsequent visits? In total how many times have you visited venue B?</p> <p>Have you recommended venue B to anyone?</p>	

Last visit to a service	<p>The very last time you visited a service where did you go?</p> <p>Can you describe your very last visit?</p>	<p>How did your last visit to go? How were you treated? How did you feel? What did you go for? Did you get what you wanted? Were you satisfied with the visit?</p>	
	<p>What are your general feelings about the services you have accessed?</p>	<p>Have the services you attended been welcoming, friendly, helpful, confidential etc?</p> <p>Are the services, easy to get to, open at convenient times?</p> <p>Do they provide you with all the services you want/require?</p>	
Views about services	<p>What are your general impressions of the services provided for young people?</p>	<p>What do you think are the most important features of a sexual health service for young people? What do you think are the essential elements of a service? What will make young people go? Are there differences in the needs of young men and women? How can they both be provided for?</p> <p>Where do you think young people's sexual health services should be held (location)? Why? Who should provide the information and advice?</p> <p>What do you think are the best ways of advertising and promoting services?</p> <p>Can you think of 3 words which are the most important to use when advertising and promoting sexual health services for young people?</p> <p>How do you think the services in your locality could be improved upon? What do young men/women in your area need? What do you need?</p>	

Sexual inexperience	<p>Why do you think you haven't had sex yet?</p> <p>Reason(s) why first intercourse has yet to occur</p>	<p>Do you feel ready? Why? Why not?</p> <p>Have you wanted to but not yet found the right partner? How do you go about selecting the right partner? What does the relationship have to be like?</p> <p>When will the time be right for you?</p> <p>Have you plans or expectations to engage in sex?</p>	
	<p>Do you feel under pressure <u>not</u> to have sex?</p> <p>Have you ever felt any pressure(s) to experience first intercourse?</p>	<p>From whom? How does this make you feel?</p> <p>How have you resisted the pressure(s) to have sex?</p>	<p>Use of alternatives to intercourse (masturbation, oral sex etc)</p>

Appendix 10: Anonymised list of interviewees and characteristics.

Name (Not real names)	Gender/school	Age	Grade/Class	Tribal Affiliation/ Religion	Cluster
David (1RT)	Male /public	16	SS3	Yoruba/ christian	Peer
Emmanuel (2RT)	Male/public	15	SS2	Yoruba/ Muslim	Peer
Amy (3RT)	Female/public	15	SS3	Yoruba/Muslim	Home
Damilola (4RT)	Female/public	16	SS3	Yoruba/ Christain	Peer
Dan (5RT)	Male/private	15	SS1	Igbo/Christain	Home
Mariam (6RT)	Female/private	13	SS1	Yoruba/ Muslim	Home
Samy (7RT)	Male/Private	16	SS3	Yoruba/Christain	Home
Leo (8RT)	Male/private	16	SS3	Igbo/Christain	Home
Barbara (9RT)	Female/ private	13	SS1	Yoruba/ Muslim	Home
Olivia (10RT)	Female/private	12	SS2	Yoruba/Muslim	Peer